

CLEAN

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NAVAL STATION TREASURE ISLAND HUNTERS POINT ANNEX SAN FRANCISCO, CALIFORNIA

BRAC CLEANUP PLAN

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ACRONYMS

ACM Asbestos containing material

ARAR Applicable or Relevant and Appropriate Requirements

AST Aboveground storage tank

ATSDR Agency for Toxic Substances and Disease Registry

BCP BRAC Cleanup Plan
BCT BRAC Cleanup Team

BEC BRAC Environmental Coordinator

BRAC Base Closure and Realignment Act of 1988 and Defense Base Closure and

Realignment Act of 1990, collectively

BTC BRAC transition coordinator

Cal/EPA California Environmental Protection Agency

CAMU Corrective Action Management Unit CCR California Code of Regulations

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CERFA Community Environmental Response Facilitation Act

CFR Code of Federal Regulations
CRP Community Relations Plan

DoD Department of Defense

DOT Department of Transportation

DQO Data quality objectives

DTSC Department of Toxic Substances Control (Cal/EPA)

EBS Environmental Baseline Survey
EIS Environmental impact statement

EPA U.S. Environmental Protection Agency

FFA Federal Facility Agreement
FOSL Finding of Suitability to Lease
FOST Findings of Suitability to Transfer

FS Feasibility Study

FUDS Formerly used defense sites

FY Fiscal Year

gal Gallon

HPA Hunters Point Annex

IR Installation Restoration

MCCA Military Construction Codification Act

NACIP Navy Assessment and Control of Installation Pollutants

NCP National Oil and Hazardous Substance Pollution Contingency Plan

NAVSTA Naval Station

NEPA National Environmental Policy Act, as amended

NESHAP National Emission Standards for Hazardous Air Pollutants

NPDES National Pollutant Discharge Elimination System

NPL National Priorities List
NRC Nuclear Regulatory Agency

NRDL Naval Radiological Defense Laboratory

OPNAVINST Chief of Naval Operations Instructions

OSHA Occupational Safety and Health Administration

OU Operable unit

PA Preliminary Assessment

PARCC Precision, accuracy, representativeness, completeness, and comparability (of data)

PCB Polychlorinated biphenyls

pCi/l Picocuries per liter

POL Petroleum, oils, and lubricant

ppm Parts per million

PRC Environmental Management, Inc.

RA Remedial action

RASO Restoration Advisory Board
RASO Radiation Affairs Support Office

RCRA Resources Conservation and Recovery Act, as amended

RI Remedial investigation ROD Record of Decision

RPM Remedial Project Manager

SARA Superfund Amendments and Reauthorization Act

SFRA San Francisco Redevelopment Agency

SI Site Inspection

SWMU Solid Waste Management Unit

TRC Technical Review Committee
TSCA Toxic Substances Control Act

UST Underground storage tank

VOC Volatile organic compounds

WESTDIV Western Division, Naval Facilities Engineering Command

EXECUTIVE SUMMARY

Hunters Point Annex (HPA), Naval Station Treasure Island, is a deactivated Navy shipyard listed by the Department of Defense (DoD) in 1990 for closure. HPA is in southeastern San Francisco, California, adjacent to San Francisco Bay, as shown on Figures 1-1 and 1-2, and consists of 936.37 acres: 493.47 on land, and 442.90 under water, in San Francisco Bay (Freitas 1994a).

INSTALLATION BACKGROUND

The Navy took over ship repair facilities at the site and obtained ownership in 1940, subsequently expanding the facility through the condemnation process and purchase of additional property. Designated as the U.S. Naval Shipyard on November 30, 1945, HPA served as a ship repair and construction facility until 1974, when it was shut down. From 1976 through 1986, HPA was leased to a private ship repair company, Triple A Machine Shop, which was forced to leave the site amid a lawsuit by the City of San Francisco alleging illegal disposal of large quantities of hazardous wastes at HPA.

BASE CLOSURE PROCESS

Base realignment and closure (BRAC), as mandated by the Base Closure and Realignment Act of 1988 and the Defense Base Closure and Realignment Act of 1990, requires that the DoD accelerate the process of environmental cleanup at closing military bases in order to facilitate lease or transfer of property for reuse. In order to accomplish this, a BRAC cleanup plan (BCP), must be prepared by a BRAC cleanup team (BCT), and periodically updated as needed. The BCT is composed of representatives from the DoD, the U.S. Environmental Protection Agency (EPA), and the State of California Environmental Protection Agency (Cal EPA). Participation in the BCT by the State and the EPA is voluntary. The role of the BCT is derived from the President's five point initiative which calls for closer cooperation between DoD, EPA, and the State. The hope is that this spirit of cooperation and teamwork will shorten the process of releasing DoD property to the community. The role of the BCT is to work out differences among themselves to allow for quicker property transfer and community revitalization. The current members of the BCT are Ray Ramos, DoD BRAC

HPA BCP, (11:00 am) HPABCP.TXT (April 28, 1994) Environmental Coordinator, Raymond Seid, EPA, Region 9, Federal Facilities Cleanup office, and Cyrus Shabahari, Cal EPA, Department of Toxic Substances Control.

This is the first BCP prepared for HPA, and is expected to be updated approximately every 4 months. It is intended to be used to plan the environmental cleanup, and document progress. The information and assumptions presented may not have complete concurrence of the BCT members, and subsequent revisions will be prepared to reflect the concerns and comments of the BCT. For example, the BCT needs to come to an agreement on how to calculate background levels of chemical constituents at HPA. Because this agreement is very important to completing the environmental cleanup, the BCT is working together closely and expects to resolve the issue soon. The BCP explains the current status, management response strategy, and action items (shown in Table ES-1) related to HPA's ongoing environmental restoration and associated compliance programs. The BCP begins with a brief history of HPA, and a discussion of how property was acquired for the facility. Maps are provided that show the facility and pinpoint the location of sites where hazardous materials may have been disposed, the location of underground storage tanks, and the location of sites where radioactive materials were used or disposed. Tables are provided that show current and past building occupants, and describe the nature of environmental contamination associated with each building. These maps and tables should assist in helping interested parties find ways to accelerate cleanup and identify uncontaminated areas. Later chapters discuss the Navy's efforts to clean up contaminated sites and comply with regulatory requirements, and present the Navy's community relations efforts.

The BCT has several responsibilities in the five step base closure process:

- Assemble a project team composed of technical and regulatory specialists drawn from within their respective agencies or from private contractors
- Determine the status of environmental restoration work (work to identify sites that were contaminated with hazardous substances in the past, and clean them up) and the level of compliance with environmental regulations at HPA.
- Compile and adopt recommendations designed to prepare base property for transfer of ownership and change in land use
- Prepare a BCP

• Implement the actions described in the BCP and continue to maintain and update the BCP as closure activities at the base continue.

APPLICABLE STATUTES AND REGULATIONS

The BCP incorporates regulatory programs mandated under several federal and state statutes and regulations. The most important of these include:

Federal

- Base Closure and Realignment Act of 1988
- Defense Base Closure and Realignment Act of 1990
- Comprehensive Environmental Response, Compensation and Liability Act
- Community Environmental Response Facilitation Act
- Resource Conservation and Recovery Act
- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act

State

- California Clean Air Act
- California Environmental Quality Act
- California Underground Storage Tank Law
- Carpenter-Presley-Tanner Hazardous Substance Account Act
- Hazardous Waste Control Act
- California Safe Drinking Water Act
- California Codes of Regulation, especially Titles 22 and 23

Other applicable laws and regulations, include those under the State Department of Fish and Game, the U.S. Department of Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and other agencies, will be identified as more information becomes available.

ENVIRONMENTAL RESTORATION AND COMPLIANCE ACHIEVEMENTS

Closure of HPA requires the completion of several interrelated tasks, including those pertaining to environmental restoration and environmental compliance, and the preparation of an environmental impact statement (EIS), a community reuse plan, and a BCP.

Substantial progress has been made toward cleanup of HPA since the beginning of environmental restoration work in 1987. To date, 58 sites have been identified that may be contaminated with petroleum products (for example, gasoline and diesel oil), hazardous substances (for example, heavy metals or organic solvents), or radioactive materials (mainly radium instrument dials). While most of these sites are still undergoing investigations to determine the nature and extent of contamination to the environment, early cleanup actions have been completed at several sites. Approximately \$30 million has been spent on environmental restoration at HPA, and an additional \$260 million (according to internal Navy estimates) is required to complete cleanup through the year 2006.

Please note that Summary Table A incorporates 26 additional IR sites 59 through 84 which are not reflected in the main body of the text. These additional sites were recommended as a result of the current operations survey conducted in early 1994, and have been included to make these budget estimates as accurate as possible. The next revision of the BCP will reflect these additional IR sites.

Accomplishments of environmental restoration efforts at HPA include the following:

- Parcel A, a 90-acre portion of HPA that was primarily office and residential in use, has been found to be substantially clean, and is very near to being released to the City of San Francisco.
- The usual way of conducting a remedial investigation at a superfund site has been modified to accelerate the process by dividing HPA into five parcels. HPA is the first facility at which division into separate geographical parcels was used. This has resulted in the accelerated availability of parcel A for transfer.

HPA BCP, (11:00 am) HPABCP.TXT (April 28, 1994)

- The proposed transfer of parcel A and the future transfers of the remaining parcels, have been supported by the use of accelerated measures including investigation by excavation, shortened document review periods, and concurrent document review. As a result, schedules have been moved ahead significantly.
- The investigation of the facility has identified areas of contamination that can be ascribed to Triple A Machine Shop as well as those attributed to previous Navy operations. At this stage, the necessary information to compile site conceptual models showing contaminants identified and the areas affected is almost complete, and work to complete the conceptual models is proceeding according to the schedule agreed to in the federal facility agreement.
- As a result of the early definition of sites with localized contaminants, the Navy has completed several interim removals ranging from the cleanup of polychlorinated biphenyl (PCB)-contaminated soil at Installation Restoration Program site 08, to the removal of Tank S-505, and the above ground storage tanks at the tank farm. Also, all of the known 46 underground storage tanks have been removed or closed in place.

The Navy has also completed work to reach compliance with other environmental programs. For example, most electrical equipment contaminated with PCBs, a suspected carcinogen, has been removed. Approximately \$25 million has been budgeted for compliance programs through 1996, mainly for the removal of asbestos (a fibrous mineral that can cause lung cancer), but also including further removal of PCB-containing electrical equipment, cleanup of hazardous waste that may have been released by recent tenants, abatement of radon (a natural radioactive gas that can accumulate in buildings), and further updates of the BCP.

The City of San Francisco Redevelopment Agency is preparing a community reuse plan, and the Navy will prepare an EIS based on the land uses that are selected.

STATUS OF NATURAL AND CULTURAL RESOURCES

Natural Resources

Species of plants and animals listed by the federal government and the State of California as threatened or endangered have been observed at HPA, particularly in the wetlands and mudflats habitats. According to local authorities, the wetlands at HPA represent the most important salt marsh habitats in the San Francisco area. Numerous bird species forage in the wetland and mudflat areas, and numerous migratory waterfowl winter along the marine shoreline.

Cultural Resources

HPA has been surveyed for structures of historic significance, with the Hunters Point Commercial Dry Docks Historical District established as a result. Dry docks No. 2, No. 3, and No. 4 are considered to be significant structures within this district along with brick buildings and the seawalls and wharves connected with the dry docks. Other structures of significance have either been altered or have deteriorated to the point that their historical integrity is no longer intact. No archaeological resources of significance have been identified at HPA.

TABLE ES-1

BCT/Project Team Action Items

	Sta	tus
Action Item	In Progress	To Be Performed
COMPLIANCE ACTIVITIES		
Aboveground storage tank investigation	x	
PCB electrical equipment removal	x	
Hazardous waste/materials management audit of tenants, prepare compliance plan	x	
Air emissions audit	х	
Asbestos inventory and abatement plan		х
NEPA (EIS)		X
National Pollutant Discharge Elimination System (NPDES) audit		x
Investigation of USTs and ASTs in use, prepare compliance plan		x
Solid waste management audit of tenants, prepare compliance plan	х	
Determine whether equipment with greater than 5 ppm PCBs must be removed, prepare response plan	x	
ENVIRONMENTAL RESTORATION AND CERCLA 120 (h)(3) CONSIDERATIONS		
Determine environmental condition of property and prepare map	x	
Determine suitability for property for transfer and prepare map	x	
Implement sandblast grit fixation program	х	
Reach agreement on how to determine background contaminant levels	x	
COMMUNITY RELATIONS		
Newsletter		X
Fact sheets		x
Evening open-house meeting		х

BCT BRAC Cleanup Team
PCB Polychlorinated biphenyls
NEPA National Environmental Policy Act
EIS Environmental Impact Statement
UST Underground storage tank
AST Aboveground storage tank

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CHAPTER 1

INTRODUCTION AND SUMMARY

This Base Realignment and Cleanup (BRAC) Cleanup Plan (BCP), was prepared as mandated by the Base Closure and Realignment Act of 1988 and the Defense Base Closure and Realignment Act of 1990, for Naval Station Treasure Island, Hunters Point Annex (HPA). HPA is a deactivated Navy shipyard in southeastern San Francisco, California, as shown in Figures 1-1, and 1-2. Portions of HPA have been leased to numerous private parties. HPA is subdivided into five parcels (A through E), which are shown in Figures 1-3 through 1-7. All figures and tables are grouped together in the back of the Chapter in which they are referenced. The figures appear first, followed by the tables.

HPA was listed for closure by the Department of Defense (DoD) in 1990. A BCP is required for each closing DoD installation where property will be available for transfer to a community. This BCP is required to implement President Clinton's July 2, 1993 plan to promote early reuse of closing bases by expediting environmental cleanup.

This BCP reflects a comprehensive bottom-up program review by the BRAC Cleanup Team (BCT), with assistance from PRC Environmental Management, Incorporated (PRC), with preparation of the report. The BCP is the product of the five-step process mandated by BRAC to facilitate the return of closed military bases to the community for beneficial reuse. The BCP is designed to serve as the road map for expeditious cleanup of each closing DoD installation.

The HPA BCT is required by BRAC to be composed of a representative from the DoD, the EPA and the state, and is given the responsibility to oversee the five-step process. Members of the BCT are charged with working together to facilitate cleanup of closing military bases and reaching a consensus on reuse alternatives and priorities as well as methods to accelerate environmental cleanup. The role of the BCT is to first assemble a project team, composed of technical experts drawn from within each agency and from private contractors, and a DoD base transition coordinator (BTC), who coordinates the BCT actions with the Community Reuse Committee. The current members of the HPA BCT are Ray Ramos, DoD BEC, Raymond Seid, U.S. Environmental Protection Agency (EPA), Region 9,

and Cyrus Shabahari, California Environmental Protection Agency, Department of Toxic Substance Control (DTSC).

The first step of this five-step process is the formation of the BCT assisting project team. The members of the HPA assisting project team are shown in Table 1-1.

The second step is for the HPA BCT to conduct a bottom-up program review of all past and ongoing environmental programs at HPA. The goal of this step is to gain a complete picture of the status of HPA environmental restoration activities (projects to clean up past releases of hazardous chemicals), and the status of compliance programs, which are those that insure that HPA is in compliance with environmental regulations that govern current operations (for example, regulations for permitting of air emissions, the removal of underground storage tanks, or discharges to navigable waterways).

The third step is for the HPA BCT to compile the information it has gathered and adopt recommendations for streamlining and expediting ongoing environmental restoration and compliance programs.

The forth step is for the HPA BCP to write and assemble the BCP, incorporating information from step 2, and recommendations from step 3. This BCP is intended to be a snapshot of the status of HPA'a environmental programs, and to serve as a guide to their future execution. The BCP describes the status of environmental restoration activities and compliance programs, and then provides the strategy, rationale, schedule, and costs for implementation.

The fifth step is for the HPA BCT to implement the strategy laid out in the BCP, and maintain and update the BCP as work at HPA progresses. The BCT will update the BCP with input from the community, the project team, and the Restoration Advisory Board (which is described below).

Some buildings and surrounding areas of HPA are contaminated with petroleum, various hazardous substances, and wastes. For example, at the location of underground storage tanks, soil and groundwater immediately under the tanks may be contaminated with gasoline. As another example, a former landfill along the southwest shore of HPA covers several acres and is contaminated with a

variety of petrochemicals, metals, and radioactive materials (radium instrument dials). In order to address these potential problems, an environmental restoration effort has been implemented by the Navy to identify the extent of contamination, and clean up those areas that pose unacceptable risks to human health or the environment. This program is referred to as the Installation Restoration (IR) Program. In addition, HPA and its property lessees required to comply with applicable laws and regulations to ensure that the Navy's current waste management and natural resource management practices (the management of wildlife habitat), and those of property lessees, are carried out in a manner that protects human health and the environment. The major applicable federal and state laws are listed below:

Federal Laws

- The Base Closure and Realignment Act of 1988
- The Defense Base Closure and Realignment Act of 1990
- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- The Community Environmental Response Facilitation Act (CERFA)
- The Resource Conservation and Recovery Act (RCRA)
- The Clean Air Act
- The Clean Water Act
- The Safe Drinking Water Act

State of California Laws

- The California Clean Air Act
- The California Environmental Quality Act
- The California Underground Storage Tank Law
- The Carpenter-Presley-Tanner Hazardous Substance Account Act

- The Hazardous Waste Control Act
- The California Safe Drinking Water Act

This BCP is a working document, to be used for planning environmental restoration and compliance activities at HPA. Changes in response to State of California, federal, and community input will likely result in changes in the implementation of the planned actions that could significantly affect their cost and schedule.

1.1 ENVIRONMENTAL RESPONSE OBJECTIVES

The objectives of the base closure environmental restoration program at HPA are to protect human health and the environment, attempt to meet the reuse goals established by the community, and comply with existing state and federal laws, regulations, and other requirements. In order to achieve these objectives, the following will be implemented:

CERCLA

- Conduct all IR program activities in a manner consistent with Section 120 of the CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA).
- Meet Federal Facility Agreement (FFA) deadlines as detailed in Chapter 5 of this BCP.
- Continue efforts to identify all potentially contaminated areas through continued sampling and analysis under the IR program.
- Incorporate any new sites into the FFA, as appropriate.
- Initiate selected removal actions to control, eliminate, or reduce risks to manageable levels.
- Develop, screen, and select RA that reduce risks in a manner consistent with statutory requirements.
- Conduct long-term RAs for groundwater and any necessary periodic reviews for wastes left on site.

CERFA

- Conduct environmental baseline surveys (EBS) and prepare an environmental baseline report. An EBS is a comprehensive literature survey that seeks to identify any portion of a BRAC facility that has no environmental problems precluding its availability for community reuse.
- Establish priorities for environmental restoration and restoration-related compliance activities (so that property disposal and reuse goals can be met).
- Identify and map the environmental condition of installation property, concurrent with remedial investigation (RI) efforts. A remedial investigation is the CERCLA-required study of a site where evidence has been found of past release or disposal of hazardous chemicals that may present a significant risk to human health or the environment. The RI involves the collection of soil and groundwater samples, analysis of samples for the presence of hazardous chemicals, and the estimation of associated risks to human health or the environment, based on likely exposure scenarios to the chemicals actually found at the site.
- Consider future land uses when characterizing risks associated with releases of petroleum, hazardous substances, pollutants, contaminants, or hazardous wastes.
- Identify and map areas suitable for transfer by deed and areas unsuitable for transfer by deed.
- Complete RIs as soon as practicable for each source area, zone, or parcel, in an order of priority that takes into account both environmental concerns and redevelopment plans.
- Conduct RAs for environmental and property disposal and reuse priority areas as soon as practicable.
- Advise the real estate arm of the Navy BRAC organization about property that is considered suitable for transfer and property that is not suitable for transfer because it is either not properly evaluated or poses an unacceptable human health or environmental risk.
- Establish interim and long-term monitoring plans for RAs as appropriate.

1.2 BCP PURPOSE, UPDATES, AND DISTRIBUTION

This BCP summarizes the status of the HPA IR Program and environmental compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities.

It lays out the response action approach at the installation in support of base closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The HPA BCP strategies and schedules herein are designed to streamline and expedite the necessary response actions associated with Parcels A through E and areas adjacent to these parcels in order to facilitate the earliest possible disposal and reuse activities. Risk assessment protocols will incorporate future land uses in evaluating exposure scenarios.

The BCT will modify or update the BCP quarterly unless there is a consensus by the BCT that an update is not needed. It is also envisioned that contractor assistance will be employed on a 6-month basis to prepare an updated BCP for submission to the BCT. Copies of the updated BCP will be provided to the BCT, the BCT represented agencies, the Restoration Advisory Board (RAB) members, and other parties that may declare themselves as interested parties through the Navy's community relations staff.

1.3 BCT/PROJECT TEAM

The HPA BCT/project team has been established and is led by Ray Ramos, P.E., as the BEC. Project team meetings are used as a means of conducting periodic program reviews and reaching consensus on environmental restoration and compliance decisions. The core of the BCT includes the BEC, Ray Ramos, Raymond Seid of the EPA, and Cyrus Shabahari of DTSC. Table 1-1 lists the team members and their roles and responsibilities.

1.4 INSTALLATION BACKGROUND

1.4.1 History, 1776 to 1938

HPA is a long promontory in the southeastern portion of San Francisco, extending eastward into San Francisco Bay (Figure 1-1). This stretch of land has been part of recorded maritime history since 1775. The Navy portion of HPA consists of 936.37 acres, 493.47 of which are on land, and 442.90 of which are under water, in San Francisco Bay (Freitas. 1994a). HPA is bounded on the north and east by the bay, and on the south and west by the Bayview Hunters Point district of San Francisco.

The Bayview Hunters Point district consists of public and private housing as well as commercial and industrial businesses. The north and east shores of HPA are developed for ship repair including dry docks and berths; there are no shipping facilities on the southwest shore (PRC/HLA 1993). Real estate summary maps provided by the Western Division, Naval Engineering Command (WESTDIV), and the "Summary of Land Conditions at the Hunters Point Annex, Naval (Station) Treasure Island" (Mahoney 1994), indicate that all of this area is "owned in fee," except for 1.84 acres that is "ingrant." This document also states that 48 acres of HPA could be affected by the Tidelands Trust. These 48 acres were purchased from Bethelem Steel, and are part submerged and part dry land made from fill. The remainder of HPA is said to have been acquired through "condemnation" and is therefore not affected by the Tidelands Trust. However, the document goes on to say that:

Most of the lands occupied by the Naval Station have either been filled upon or (are) tide and submerged lands. It is expected that the State of California will assert its claim in name of the "public trust" to most of these lands. Even though the State of California has ceded title and submerged lands to local governments and private parties in the past, the State has tried to assert the public trust doctrine or invalidate its past conveyances over these lands. The affect of the assertion of the public trust by the state will not only cloud the Navy's title over these lands, but in all probability will seriously reduce the value of the property at the time of disposal.

According to the Navy, the above issue should not be a concern since the property is likely to all be transferred to the City of San Francisco.

Title to the land dates back to the eighteenth century. In 1776, Juan Manuela de Ayala sailed into the Bay and recorded his finding for the Viceroy of Spain. When Mission San Francisco de Asis was founded in 1776, this area (then referred to as Point Avisidero) and the inland area known as Point Viejo became mission lands and were used for cattle grazing.

By 1849, Robert, John, and Phillip Hunter established residences on the promontory. Although various legal battles clouded the Hunters' claim to the land, the land bore the name HPA by 1858. In reviewing the history of HPA, it is important to look at the area in the context of California's tremendous growth during the gold rush. At the height of the gold rush, California's shipping

industry strained to meet the rapid expansion. New, larger vessels were built in the 1840's, the California Clipper ships. These large ships created a strong demand for dry docks in the San Francisco Bay region.

HPA was advantageous not only in terms of its geography but also because it already had a timber pier and docking facilities in the 1850s. In 1867, the California Dry Dock Company purchased the tip of Point Avisidero to build a dry dock. A 490-foot-long graving dry dock (Dry Dock No. 1) was completed in 1868, with a pump house 50 feet from the forward end of the dry dock on the south side.

By 1900, the San Francisco Dry Dock Company owned the HPA dry dock. This company built a second dry dock in 1903. Dry Dock No. 2 was the largest dry dock on the West Coast, capable of servicing all the classes of ships plying the Pacific Ocean. A new pump house was completed in 1907 to serve both dry docks.

In 1909, the Navy began investigations to acquire HPA. However, at that time, Congress was not inclined to vote on new purchases, and the acquisition of HPA was not pursued. Under terms of a 1916 subsidy contract with the Navy, the Union Iron Works Dry Dock Company began construction of a 1,004-foot-long dry dock at HPA. This became Dry Dock No. 3.

After 1918, Dry Dock No. 1 no longer existed as a separate entity. The HPA facility consisted of Dry Dock No. 2 and the new Dry Dock No. 3, which included part of the original Dry Dock No. 1, and was the second largest in the world.

These graving dry docks and ship repair functions were not the only commercial activities that occurred on the point. Fishing enterprises could be found adjacent to both sides of the dry docks. At the turn of the century, the Alaska Codfish Company's packing houses were to the north of HPA. The Chinese had established a strong shrimp industry in San Francisco Bay as early as 1871. Five such shrimp camps were adjacent to the docks, each consisting of homes, offices, and warehouses. Also adjacent to the HPA facility were lodging houses, saloons, and various local businesses.

1.4.2 1939-present

The 76th Congress (1938-1940), pressured by a growing concern that the United States would become involved in a war, requested that the Secretary of the Navy appoint a board of officers to report on the advisability of acquiring the HPA dry docks. This board recommended that the Navy acquire HPA. This recommendation was incorporated into legislation, HR 878, which was passed by Congress on June 2, 1939.

Two key issues arose during the debate on HR 5766 (which was incorporated into HR 878). These issues have bearing on the current viability of the transfer of the land at HPA. HPA was then an annex of the Navy's Mare Island facility. Members of Congress questioned the annex designation because they feared it would restrict development. Congress also questioned the terms of acquisition. By this time Bethlehem Steel owned HPA, and the \$4 million purchase price offered by the Navy, which was 60 percent of what Bethlehem believed a fair market price, led to lease arrangements giving Bethlehem use of the property.

In 1940, the United States Government received title to the land at HPA. Of the property acquired, Dry Docks No. 2 and No. 3, two pump houses, a boiler house, a gate house, and a paint storage building still exist and form a historic district. The development of HPA by the Navy included the purchase of 585 acres of land and all the accompanying construction.

An important historical fact concerns the destruction of the hillsides surrounding HPA. During World War II, the influx of workers created a housing shortage. By 1943, HPA had been authorized by the Navy to accommodate 4,000 family apartments and 7,500 dormitory units. The hillsides above HPA were carved to accommodate the temporary apartment buildings, and roads were constructed to connect the housing areas to the shipyard.

On November 30, 1945, the facility was redesignated the U.S. Naval Shipyard Hunters Point, a separate component of the San Francisco Naval Base. In April 1965, the command merged with Mare Island Naval Yard to become the San Francisco Bay Naval Shipyard.

In 1946, what was eventually to be called the U.S. Naval Radiological Defense Laboratory, originated at HPA as the Radiological Safety Section, a part of the San Francisco Naval Shipyard Industrial Laboratory. The U.S. Naval Radiological Defense Laboratory evolved as a separate command under the auspices of the shipyard in September 1950. The first laboratory building was enlarged by the conversion of barracks 507 and 510 in 1948. Today all the buildings used by the U.S. Naval Radiological Defense have been demolished or are no longer used for radiological purposes.

By 1951, HPA shifted from operating as a general repair facility to specializing in submarines, although the Navy continued to operate it as a carrier overhaul and ship repair facility through the late 1960s.

Hunters Point Naval Shipyard is currently an annex of the Treasure Island Naval Station. In more recent years, the Navy had leased most of HPA to a private ship-repair company, Triple A Machine Shop. Triple A Machine Shop leased the property from May 1976 to June 1986. During this period, Triple A Machine Shop subleased portions of the property to various other businesses. Some of these subleases are still in effect. After the expiration of the lease, Triple A Machine Shop was involved in extensive litigation regarding disposal of hazardous wastes at the site.

In 1990, the DoD placed HPA on the Base Closure List, mandating that contamination at HPA be remediated and the property be made available for nondefense use. HPA was designated as a "B" site by the Agency for Toxic Substances and Disease Registry in 1991, meaning it poses no imminent threat to human health but has the potential to pose a long-term threat to human health (PRC/HLA 1993).

HPA operational history is summarized in Table 1-2.

1.4.3 Geology

Six geologic units underlie HPA, the youngest is of Quaternary age and the oldest is of Jurassic-Cretaceous age. In general, the stratigraphic sequence of these units, from top to bottom, is as follows: Artificial Fill, Slope Debris and Ravine Fill, Undifferentiated Upper Sand Deposits, Bay

Mud Deposits, Undifferentiated Sedimentary Deposits, and Franciscan Assemblage. The peninsula forming HPA is within a northwest trending belt of the Franciscan Assemblage known as the HPA Shear Zone. This belt extends diagonally through the City of San Francisco from HPA to the south abutment of the Golden Gate Bridge. Rocks within this belt are intensely deformed and sheared. Serpentine is the predominant rock type, but other rock types characteristic of the Franciscan Assemblage are also present (PRC/HLA 1993).

In some low-lying areas, bedrock is overlain by Undifferentiated Sedimentary Deposits consisting of consolidated sands and clays. These are overlain by relatively extensive Bay Mud Deposits consisting of soft, highly organic, plastic clay and silt with interbedded lenses of sand and peat. In some areas of HPA, Bay Mud is overlain by poorly graded sands and silty sands which may be native or hydraulically deposited from dredging operations. Artificial Fill covers the bedrock, Bay Mud, or Undifferentiated Upper Sand Deposits over most of the low-lying areas at HPA.

1.4.4 Hydrogeology

Three aquifers have been identified at HPA and are designated the A-aquifer, the undifferentiated sedimentary or B-aquifer, and the Bedrock aquifer. The A-aquifer consists of saturated fill material and Undifferentiated Upper Sand Deposits overlying Bay Mud. The A-aquifer may overly bedrock in excavated areas adjacent to the former shoreline. In lowland areas, it is generally unconfined to semiconfined, with depths of groundwater ranging from 2 to 15 feet below ground surface. The B-aquifer consists of Undifferentiated Sedimentary Deposits underlying Bay Mud and overlying the Franciscan Assemblage. The Bedrock aquifer is the upper weathered and deeper fractured portions of the Franciscan Assemblage; it appears to be in direct hydraulic communication with the A-aquifer where the A-aquifer directly overlies it (PRC/HLA 1993).

Groundwater at the base is not used for any purpose. The base has no irrigation or water supply wells. The nearest public water supply well is approximately 2.5 miles inland from the base (Tetra Tech 1993a). However, within 2,300 feet of the facility boundary, to the northwest (Figure 1-1), a commercial bottled-water company, Albion Mountain Springs, extracts groundwater for public use. This facility does not appear to be hydraulically connected to HPA (PRC/HLA 1993).

1.4.5 Installation Mission

The Hunters Point Naval Shipyard was primarily used as an industrial operation for the modification, maintenance, and repair of ships (NEESA 1984). The mission of the shipyard before decommission in 1974 was to provide logistic support for assigned ships and service craft; to perform authorized work in connection with construction, conversion, overhaul, repair, alteration, drydocking, and outfitting of ships and craft, as assigned; to perform research, development, and test work, as assigned; and to provide services and material to other activities and units, as directed by competent authority. To implement mission objectives, the following tasks and functions were assigned to Hunters Point Naval Shipyard:

- Perform authorized shipwork in connection with the new construction, conversion, overhaul, repair, alteration, activation, and inactivation of all types of naval ships, including missile ships; perform outfitting of naval ships and service craft.
- Design naval ships.
- Operate as a planning yard for ship alterations.
- Perform research, development, test, and evaluation work, as assigned.
- Perform research, development, test, and engineering work on material handling for replenishment-at-sea projects as assigned by Naval Ships Systems Command.
- Operate the West Coast Shock Facility to evaluate the design, construction, and operation of combatant ships against attack by non-contact underwater weapons. As assigned, plan and conduct shock tests of shipboard equipment by using the Floating Shock Platform, provide technical support for conducting routine shock tests against operational ships, conduct research and development studies in the shock and vibration area, and perform measurement and analysis of test data.
- Provide electronic and weapons engineering services, on request, to Navy and Coast Guard ships in the San Francisco Bay area.
- Conduct civilian and military training programs, as required.
- Provide accounting, civilian payroll, savings bond, military disbursing, public works, industrial relations, medical, dental, berthing, supply, messing, fire prevention and fire protection, security, and other services to organizational components of the Navy Department and other U.S. Government agencies, as assigned or as requested by competent authority.

- Serve as stock point for designated material controlled by bureaus and offices of the Navy Department, naval shore (field) activities, and various Defense Supply Centers.
- Serve as a material-assembly and planning activity for military alterations authorized to be accomplished by private shipyards on ships undergoing overhaul on the West Coast.
- Provide outpatient medical care to Navy and Marine Corps personnel and their dependents attached to the shipyard, tenant activities, afloat units in the shipyard, and retired military beneficiaries resident in the area.
- Provide housing facilities, as available, for authorized military and civilian personnel, including ships present.
- Provide controls for the procurement, handling, storage, use, and disposal of sources of ionizing radiation, as well as related facilities associated with industrial operations.
- Provide industrial support to the Westinghouse Polaris (Trident II) Test Complex.

1.4.6 Waste Generation

In support of the missions of the base, past activities have generated hazardous and potentially hazardous wastes including spent petroleum products, solvents, acids, caustics, detergent, paint sludges, sandblast grit, radioactive materials, and various other waste chemicals and liquids. From a review of the Navy's Initial Assessment Study (NEESA 1984), it appears that a majority of the wastes generated at the base in the past were disposed of in the storm drain and sewer systems and in the onsite landfill. Table 1-2 summarizes general historical installation operations and hazardous substance activities; Table 1-3 provides information on hazardous waste generating and disposal activities that took place at the base during its primary operational period from the 1940s to 1974.

Between 1976 and 1986, Triple A Shipyards leased HPA. Significant litigation occurred when the City of San Francisco sued Triple A Shipyards, alleging that they generated and disposed of large amounts of sand blast grit, spent petroleum solvents, acids, and paint sludges. In this litigation Triple A Shipyards was accused of illegal disposal at 20 different sites across the facility. These sites were subsequently investigated in the IR Program, and are discussed in Chapter 3.

1.5 OFF-BASE PROPERTY AND ON BASE TENANTS AND PROPERTY ACQUISITION

1.5.1 Off-Base Property

HPA owns one off-base property. It consists of about 3,200 feet of railroad right-of-way as described in Table 1-4, located west of HPA near Crisp Avenue. A map of the railroad right-of-way and surrounding land use designations is shown on Figure 1-8. The property was acquired in 1945 from the Southern Pacific Railroad Company and the City and County of San Francisco. The area has unrestricted public access which has resulted in continued dumping of wastes and potential exposure to contaminants. HPA is responsible for the environmental restoration activities currently underway at the right-of-way (PA-52, Parcel E).

1.5.2 On Base Tenants

Table 1-5 lists the former Navy use of each building, its current use, and any tenant present from 1986 to 1993. Table 1-6 is a listing of all the current and former commercial tenants at HPA that were identified from the WESTDIV real estate records, and shows which were present in 1986, and those present in 1993. As of November 1993, there were 74 active buildings of the 240 listed buildings. Of these 74 buildings, 38 were leased to non-DoD tenants (Sullivan 1993). With the exception of docking activities, all shipyard services (Navy and private) have been discontinued. Many of the facilities have been leased and used by private tenants for maritime and non-maritime industrial and artistic purposes for more than 10 years. Representative uses include storage space, art studios, machine works, woodworking shops, auto restoration garages, and recreational vehicle parking. There are about 200 workers employed by the small businesses and 250 artists working in the art studios at HPA (Sullivan 1993).

The Navy is conducting a field survey to determine whether tenants have used hazardous substances or generated hazardous wastes that may have been released to the environment. The findings of this survey have been documented in a draft report Draft Site Assessment Report, Potentially Contaminated Sites, Parcels B, C, D, and E, Naval Station Treasure Island, Hunters Point Annex.

This report is currently undergoing internal review and is scheduled to be issued as a final document on March 11, 1994.

Table 1-7 shows a list of individual properties that originally made up HPA, their prior owners, acreage, and acquisition date by the Navy.

1.5.3 Formerly Used Defense Sites

Adjacent to Parcel A and E are properties formerly owned by the Navy that were transferred to other parties. To date, the Navy has disposed of property at HPA in five instances. Two buildings (Building 815, with 4.229 acres on 12/12/84, and Building 820, with 6.1591 acres on 7/17/81) and the associated land were transferred to Ted Lowpensky, a molding manufacturer, and Building 830, with 3.829 acres on 4/7/78, was transferred to the University of California at San Francisco. The upper portion of the facility, northwest of Parcel A, was transferred to the city of San Francisco and has since been developed as a major housing development. Property at Islais Creek, north of HPA, was transferred to a private owner and is now used as a lumber yard. The BCT will obtain the size of these parcels and the dates of their transfer for the next BCP. These sites, categorized as formerly used defense sites (FUDS), are of concern for two reasons:

- FUDS Buildings 815, 820, 830, and 831 were former Naval Radiological Defense Laboratory (NRDL) sites. Buildings 815, 820 and 830 are shown on Figure 3-8. Buildings 815 and 820 are currently owned by Mr. Ted Lowpensky, who leases them to The Datasafe Company. Four underground storage tanks have been identified at building 815 (Freitas 1994). All of these buildings have been cleared radiologically, and the surrounding area will receive further radiological investigation. Buildings 830 and 831 is currently owned by the University of California at San Francisco. These buildings will be invested by the Navy along with the ongoing IR program (McClelland 1994).
- The industrial landfill at IR-1 may extend beneath these buildings.

Additional areas of concern are along the western boundary of IR-1 where hydrocarbon contamination appears to extend off site, and the western boundary of IR-18 where hydrocarbon contamination also appears to extend off site. At both of these sites, additional investigation will be required to better

characterize the extent of contamination. All of these areas of concern are currently under consideration for investigation through existing RI investigations at HPA.

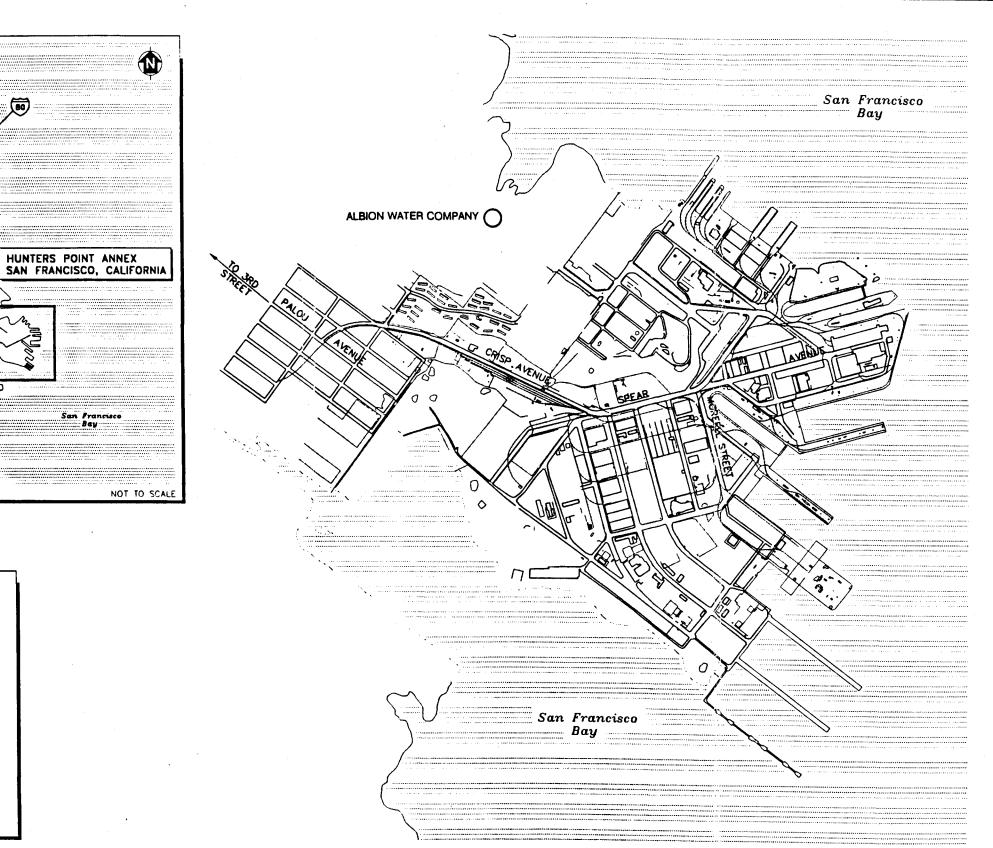
The area northeast of parcel A is a FUDS that was transferred to the City of San Francisco and is now a housing development. Another FUDS is a parcel of land along Islais Creek, about one mile north of HPA that was transferred to a private party and is now a lumber yard (Mahoney. 1994).

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SAN FRANCISCO

DALY CITY

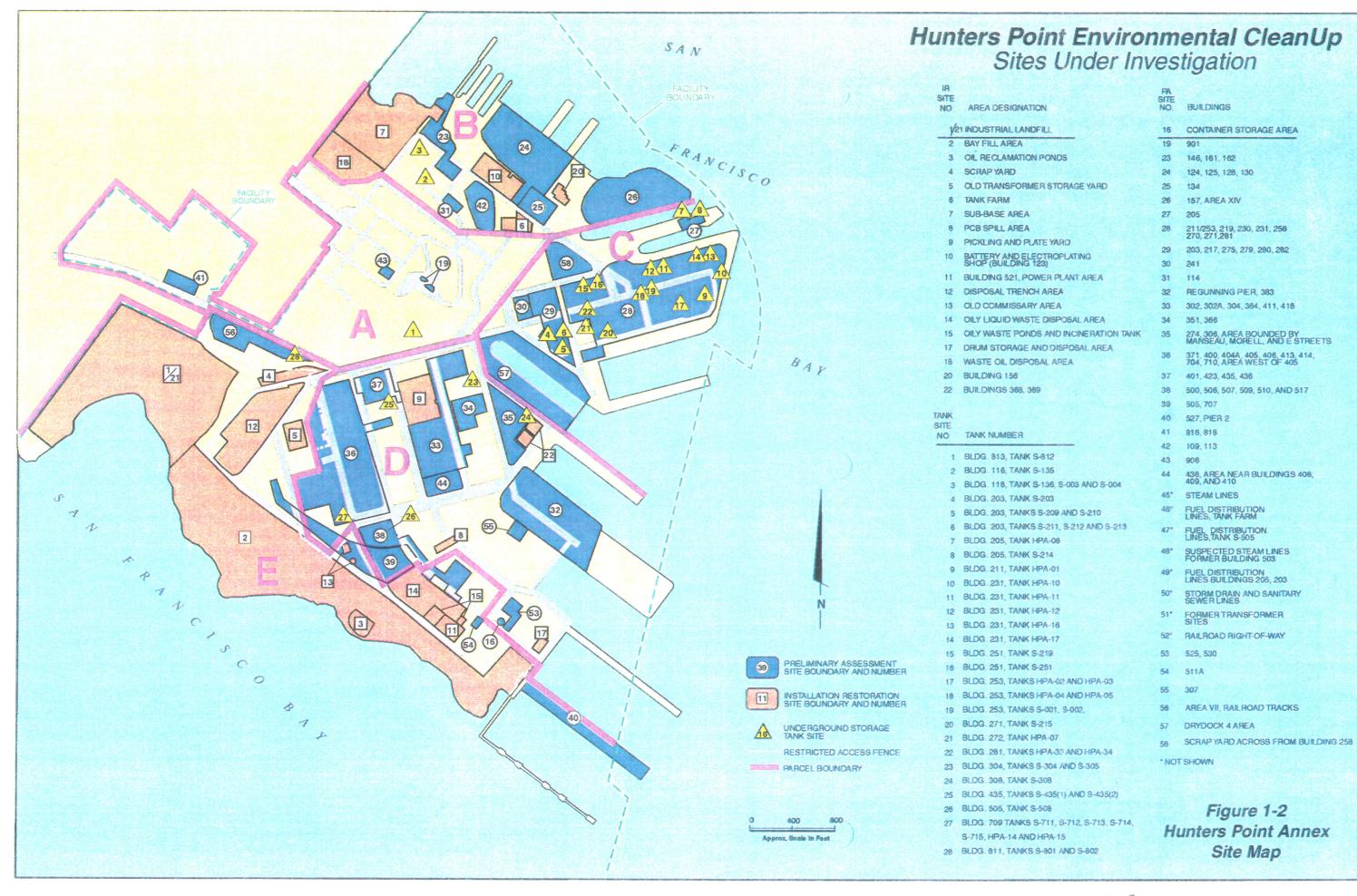


SCALE: 1 INCH = 1200 FEE

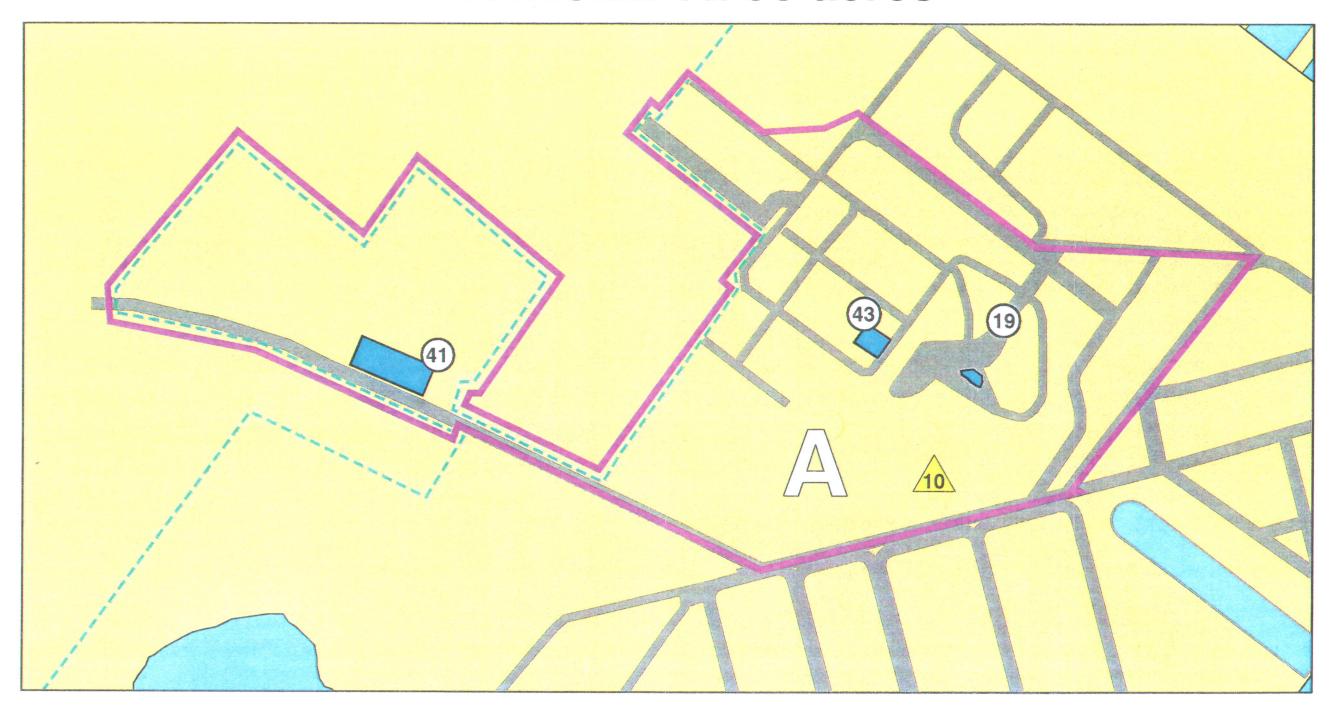


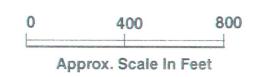
FIGURE 1-1

SITE LOCATION MAP HUNTERS POINT ANNEX SAN FRANCISCO, CALIFORNIA



PARCEL A: 90 acres





PRELIMINARY ASSESSMENT SITE BOUNDARY AND NUMBER



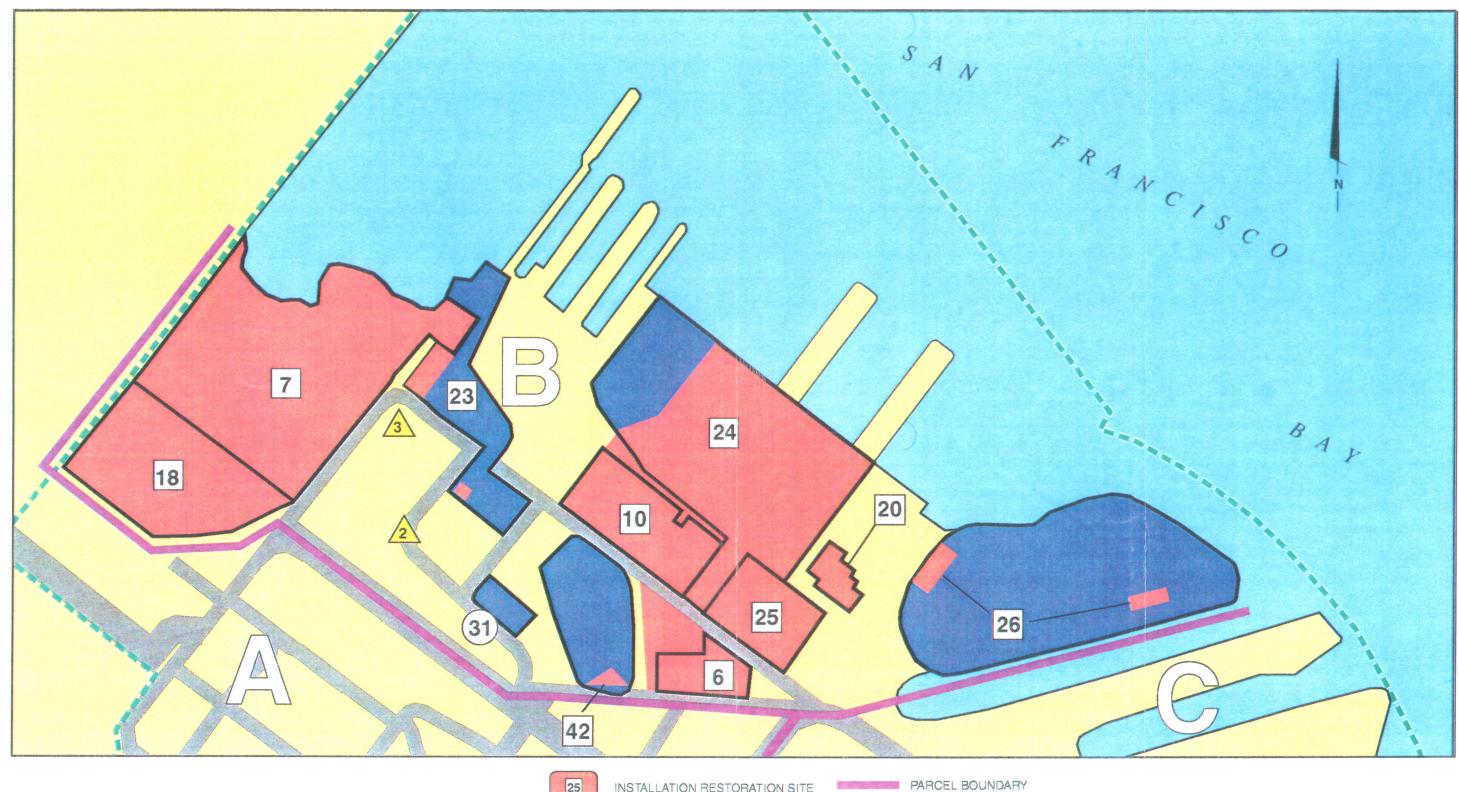


UNDERGROUND STORAGE TANK SITE



Figure 1-3
Parcel A
Hunters Point Annex

PARCEL B: 66 acres



400 800 Approx. Scale in Feet



INSTALLATION RESTORATION SITE



UST SITES RECOMMENDED FOR INCLUSION IN INSTALLATION RESTORATION PROGRAM

PRELIMINARY ASSESSMENT SITE WITH NO FURTHER ACTION RECOMMENDATION



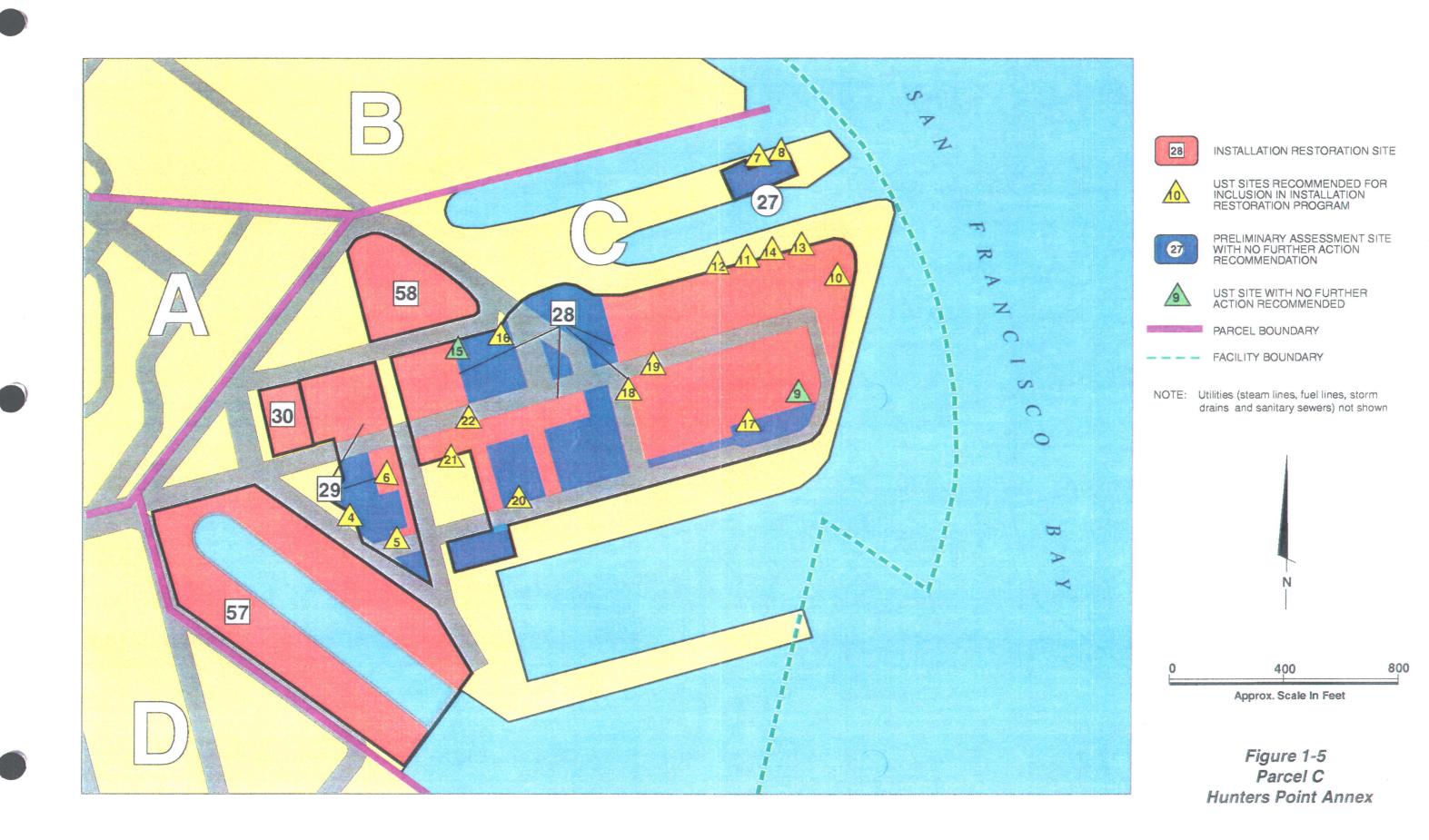
NOTE: Utilities (steam lines, fuel lines, storm

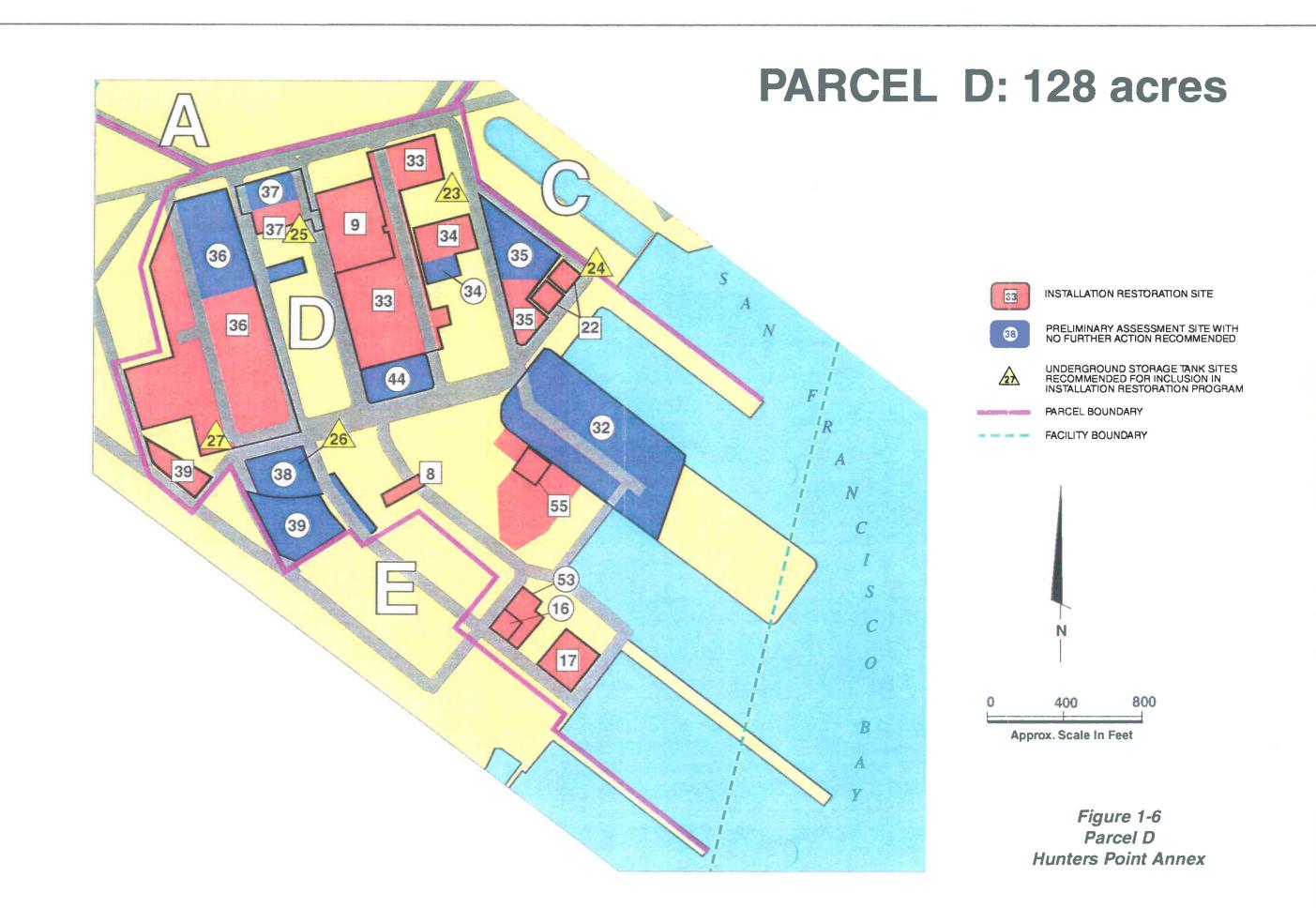
FACILITY BOUNDARY

drains and sanitary sewers) not shown

Figure 1-4 Parcel B **Hunters Point Annex**

PARCEL C: 77 acres





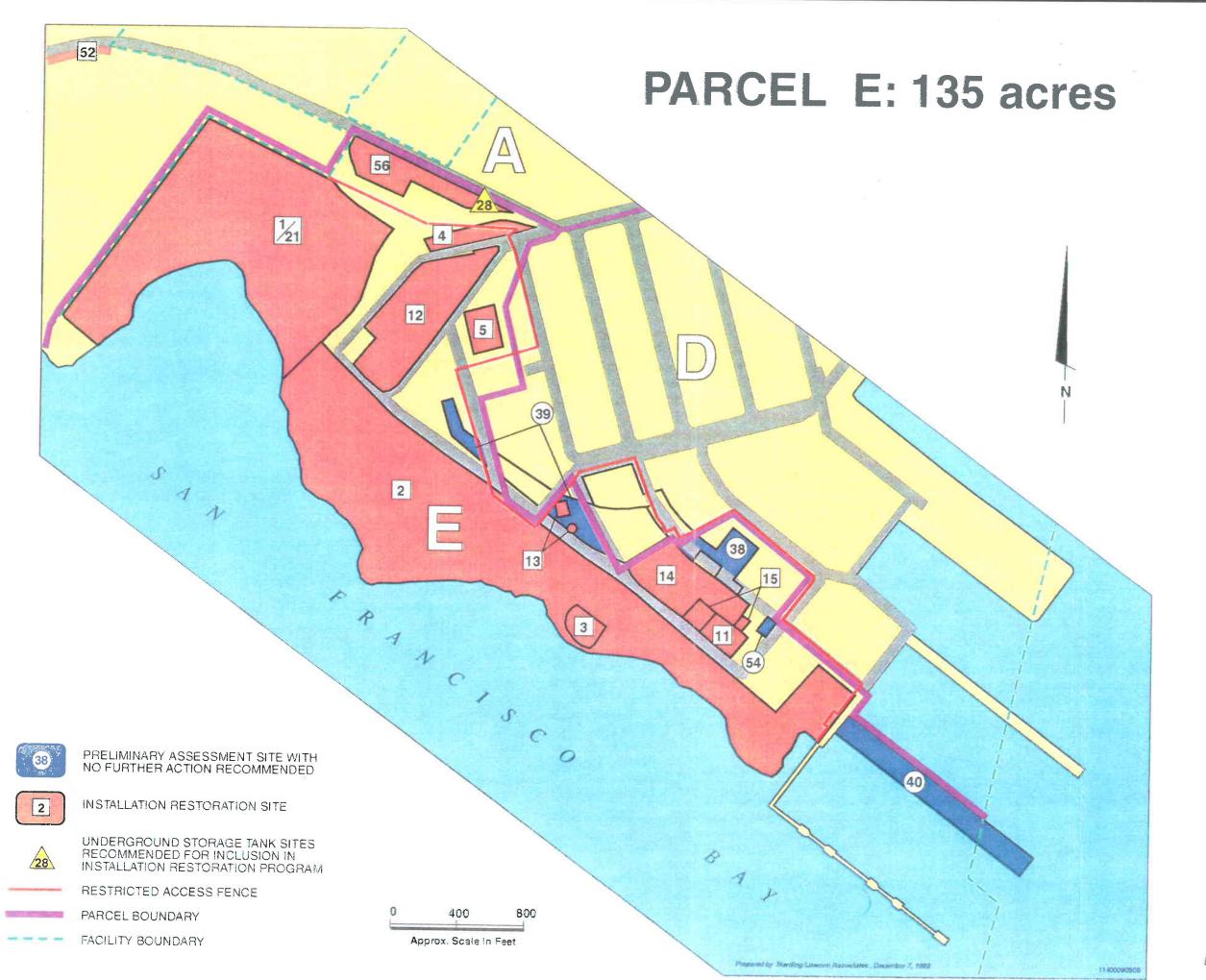


Figure 1-7
Parcel E
Hunters Point Annex

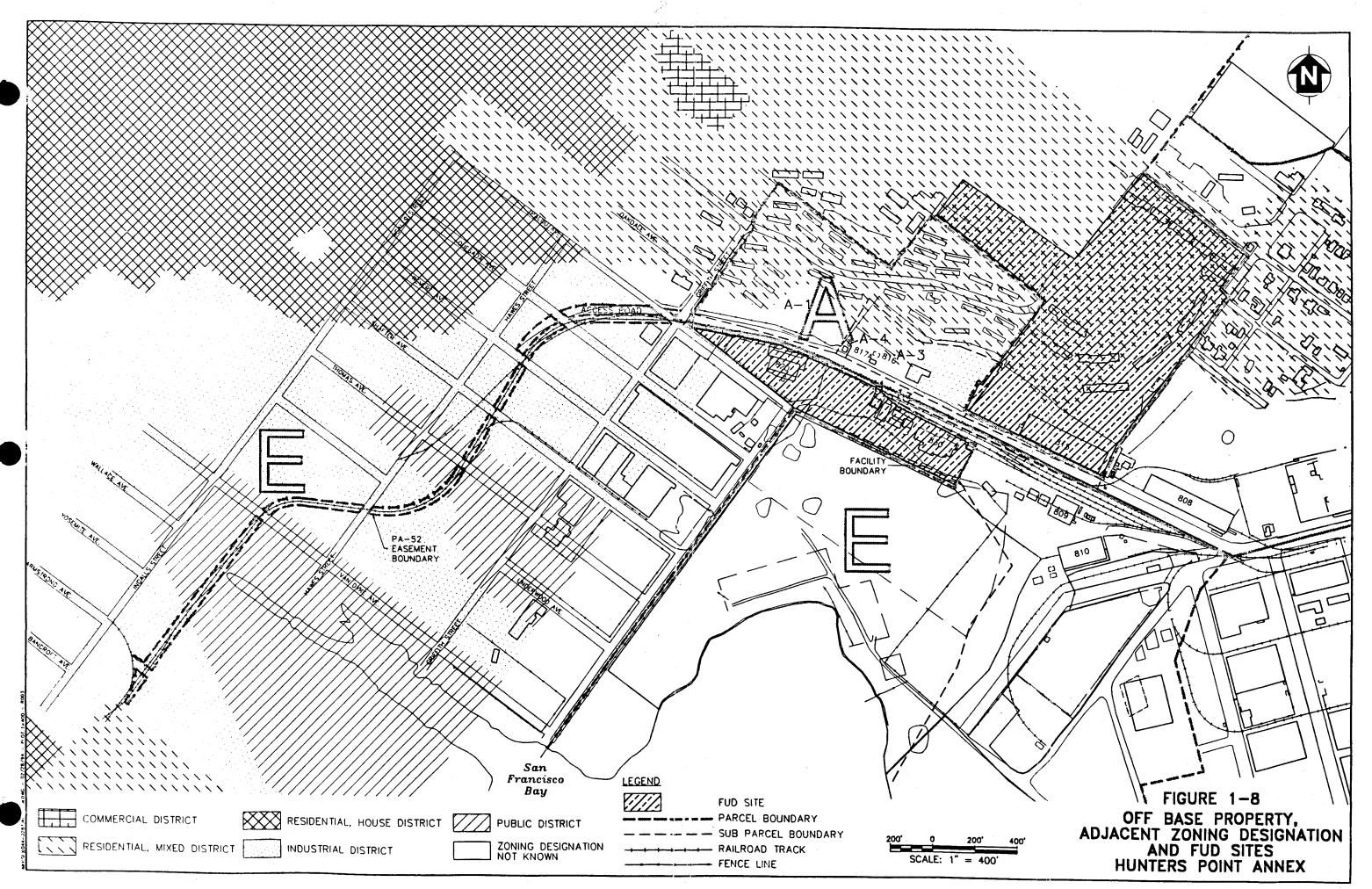


TABLE 1-1
CURRENT BCT/PROJECT TEAM MEMBERS

·	вст ме	EMBERS	
Name	Title	Phone	Role/Responsibility
Ray Ramos	BRAC Environmental Coordinator	(415) 244-3580	Navy Project Manager (Lead Agency)
Ray Seid	BRAC Cleanup Team Project Manager	(415) 744-2366	U.S. EPA Project Manager (Temporary 11/1/93 to 3/1/94)
Cyrus Shabahari	BRAC Cleanup Team Project Manager	(510) 540-3821	California EPA Project Manager
	ADDITIONAL KE	Y PARTICIPANTS	
Capt. T. Dillon	Commander, WESTDIV	(415) 244-2000	Command Responsibility Management Support
Capt. T. Berns	Commanding Officer, NAVSTA TI/HPA		Command Responsibility Management Support
Commander Al Elkins	Transition Coordinator NAVSTA TI/HPA	(415) 395-3931	Navy Base Transition Coordinator
CDR G. Haines	Team 4 Leader, WESTDW	(415) 244-3500	Base Closure Support Lead
Dennis Drennan	Real Estate Director WESTDIV	(415) 244-3801	Navy Real Estate Division Director
John Kennedy	Environmental Planning Head	(415) 244-3713	Navy Environmental Planning Branch Head
Hank Gee	Team 4 Environmental Manager	(415) 244-2571	Direct Support of BEC
John Corpos	Team 4 Compliance Section Supervisor	(415) 244-2578	Compliance Supervisor
Roger Gee	Community Relations	(415) 244-2599	HPA Environmental Community Relations
Wing Wong	Environmental Center Code 18	(415) 244-2537	Data QA

	ADDITIONAL KE	Y PARTICIPANTS	
Name	Title	Phone	Role/Responsibility
Marvin Norman	Attorney	(415) 244-2100	Navy WESTDIV Counsel
John Cummins	Attorney	(415) 244-2100	Navy WESTDIV Counsel
Camille Garibaldi	Administrative Supervisor HPA	(415) 244-2516	Administrative Support HPA RPM's
Dick Lowman	Radiation Officer	(804) 887-4692	Navy RASO
Mike McClelland	Environmental Engineer	(415) 244-2539	Lead RPM Radiation Issues, FUDS
William McAvoy	Environmental Engineer	(415) 244-2554	RPM Parcels B & C, Air Sampling, Background, Tank Farm Removal
William Radzevich	Environmental Engineer	(415) 244-2555	RPM Parcels A & D, UST's, Tank 505 Removal, Pickling and Plating Removal Action
Dave Song	Environmental Engineer	(415) 244-2561	RPM for Parcel E and ERA, TIMP, Sandblast Construction Removal Action
Jim Sullivan	Environmental Engineer	(415) 395-5456	Compliance for HPA
Roberta Blank	BRAC Cleanup Project Manager	(415) 744-2385	U.S. EPA Community Relations
Shirley Buford	Community Relations	(510) 540-3909	California EPA Community Relations
Steve Dean	Environmental Scientist	(415) 744-1045	U.S. EPA/Radiation
Alydda Mangelsdorf	Marine Biologist	(415) 744-2381	U.S. EPA/ Environmental Impact
Dan Stralka	Toxicologist	(415) 744-2310	U.S. EPA/Risk Assessment

ADDITIONAL KEY PARTICIPANTS					
Name	Title	Phone	Role/Responsibility		
Dorothy Wilson	Community Relations	(415) 744-2179	U.S. EPA Community Relations		
Barbara Smith	Environmental Scientist	(510) 286-4222	HPA RPM, RWQCB		
Steve Book	Radiation Specialist	(916) 322-2183	Cal EPA/Radiation		
Fil Fong	Environmental Scientist	(510) 540-2014	Cal EPA/Radiation		
Jim Frampton	Soil Chemist	(916) 255-2026	Cal EPA Chemist		
Chein Kao	Section Chief	(510) 540-3819	Cal EPA/Federal Facilities		
Orchid Kwei	Attorney	(510) 540-3916	Cal EPA Legal Services		
Theresa McGarry	Reuse Specialist	(916) 255-2023	Cal EPA Reuse Issues		
Jim Polisini	Toxicologist	(916) 255-2043	Cal EPA Reuse Issues		
Dean Chaney	Radiation Specialist	(510) 975-0229	U.S. NRC		
Amy Brownell	Environmental Engineer	(415) 554-2778	SF Department of Public Health		
Byron Rhett	Planner (Reuse Issues)	(415) 749-2502	San Franicsco Redevelopment Agency		
Al Williams			Community Co-Chair RAB		
Shirley Jones	Chairperson	(415) 822-9144	Mayor of San Francisco's Citizen Advisory Committee		
Cathy Morris	Head, Utilities and Base Realignment and Closure Contracts	(415) 244-3610	Professional Services and Architecture/Engineering Services Contracts for Environmental Planning, Study and Design		

	ADDITIONAL KEY PARTICIPANTS						
Name	Title	Phone	Role/Responsibility				
Dennis McAuley	Head, Environmental Services Contracts	(415) 244-2481	Clean Contract for Architecture/Engineering Services for Installation Restoration Program Studies and Design				
Lidia Chagonjian	Head, Environmental Construction Contracts	(415) 244-2349	Environmental Remediation Contracts				
Jack Guro	Deputy for Small Business	(415) 244-2305	Small and Small Disadvantaged Business Point of Contact				
·	CONTRA	ACTORS					
Name	Title	Phone	Role/Responsibility				
Bart Draper	U.S. EPA (Bechtel)		Technical Support				
Gordon Ballentine	Navy (PRC)	(415) 543-4880	Geophysics				
Pinaki Banerjee	Navy (PRC)	(415) 543-4880	Toxicology				
Joel Cehn	Navy (PRC)	(415) 543-4880	Health Physics				
Kim Chiang- Pawlouski	Navy (PRC)	(415) 543-4880	Chemistry				
Bill Desmond	Navy (PRC)	(214) 754-8765	Ecology				
Jose Flores	Navy (PRC)	(415) 543-4880	Database Management				
Stacy Lupton	Navy (PRC)	(415) 543-4880	Community Relations				
David Martinez	Navy (PRC)	(415) 543-4880	Health Physics				
Emily Pimentel	Navy (PRC)	(415) 543-4880	Marine Biology				
Barney Popkin	Navy (PRC)	(415) 543-4880	Hydrogeology				
Jim Sickles	Navy (PRC)	(415) 543-4880	Project Management, IR Program				
Fred Stanley	Navy (PRC)	(415) 543-4880	Industrial Hygiene				

	CONTRACTORS						
Name	Title	Phone	Role/Responsibility				
Gary Welshans	Navy (PRC)	(415) 543-4880	Project Management, IR Program				
Jim Wright	Navy (PRC)	(415) 543-4880	BCP Management				
Fred Albrecht	Navy (HLA)		Database Management				
Chris Corpuz	Navy (HLA)	(415) 543-4880	Industrial Hygiene				
David Leland	Navy (HLA)	(415) 884-3271	Project Management				
Carl Michelsen	Navy (HLA)	(415) 884-3274	Project Management, IR Program				
Janet Peters	Navy (HLA)	(415) 884-3103	Project Management, IR Program				
Ed Smith	Navy (PRC)		Biology				

TABLE 1-2

HISTORY OF INSTALLATION OPERATIONS

Period	Type of Operation	Hazardous Substance Activities	Owners
Pre - 1800's	Residential; fishing	Unknown	Spanish land grants
1800 - 1840	Residential; fishing; shipping	Unknown	Jose Cornelio Bernal; John Townsend; and Cornella de Boom
1840 - 1867	Commercial shipping; Hunters Point had a timber pier and docking facilities	Ship building and repair and dry dock operations; other information not available	Robert, Phillip, and John Hunter
1867 - 1900	Commercial shipping; building and completion of Dry Dock No. 1; ship repair; shrimp fishing and processing	Ship building and repair and dry dock operations; other information not available	California Dry Dock Company
1900 - 1908	Commercial shipping; building and completion of Dry Dock No. 2; ship repair; shrimp fishing and processing	Ship building and repair and dry dock operations; other information not available	San Francisco Dry Dock Company
1908 - 1939	Commercial shipping; building and completion of Dry Dock No. 3; ship repair; shrimp fishing and processing	Ship building and repair and dry dock operations; other information not available	Union Iron Works [subsequently purchased by Bethlehem Steel]
1939 - 1941	Dry docks for Navy ships; ship repair	Information not available	U.S. Navy [the Navy leased the facilities to Bethlehem Steel]
1941 - 1945	Dry docks for Navy ships; building and completion of Dry Dock No. 4 (which has been subsequently designated historic)	Ship building and repair and dry dock operations; other information not available	U.S. Navy cancelled the lease in 1941 and took possession of Hunters Point

HISTORY OF INSTALLATION OPERATIONS

Period	Type of Operation	Hazardous Substance Activities	Owners
1945 - 1974	Dry docks for Navy ships; establishment and administration of the Naval Radiological Defense Laboratory	Industrial landfill; pickling and plate yard; oil reclamation ponds; machine shops; fuel/oil storage; radiological research operations; maintenance shops; battery overhaul; plating shop; acid mixing plant; sheet metal shop; paint shops; forge shop; foundry; aluminum casting; sandblasting activities and disposal; service stations; electronics shops; pipefitting shop; rigging shops; shipfitting shop; hazardous waste storage areas; automotive shops; Poseidon missile operations; scrap yard; open burn area; and transformer storage yard	U.S. Navy
1974 - 1976	Shipyard deactivated and relatively unused during this time	Information not available - minimal base activities	U.S. Navy
1976 - 1986	Navy leased most of facility to Triple A Machine Shop; Triple A subleased many of buildings to other commercial businesses	Triple A activities primarily commercial ship repair. City of San Francisco sues, alleging illegal disposal of large amounts of hazardous waste, including sand blast grit, spent petroleum solvents, acids, and paint sludges.	U.S. Navy
1986 - 1990	Navy resumed occupancy of facility, but not shipyard operations; many commercial business tenants previously on site remained	Information not available	U.S. Navy
1990 - present	HPA placed on Base Closure List; preliminary and remedial investigations and cleanups necessary for transfer of land to public currently in progress	Information not available	U.S. Navy

TABLE 1-3

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
A	101	Reproduction Department	blue print, ozalid, and photo developing	hydrogen peroxide; ammonia; photo developer solutions and various chemicals washed off print paper	500 gallons per week	combined sewer system	1
	815, 816	Naval Radiological Defense Laboratory - Chemistry, Biology, Physics	unknown	unknown	unknown	dumped at sea or hauled away by licensed contractor	1
В	104	National Guard Armory	unknown	unknown	unknown	unknown	2
	111, 112	Diesel Oil Pumping Plant	draw-off from oil separator units; washdown of spillage	emulsifying agent during washdown; waste oil	2,000 gallons per month	oil reclamation plant; storm sewer system	1
	113	Salvage Diver's Shop	salvage operations	waste metal equipment	1,000 pounds per week	scrap yard; landfill	1
	113A	Tug and Sub Maintenance Shop (also Machine Shop, Torpedo Maintenance Shop, and Electrical Substation)	unknown	waste metal equipment	unknown	scrap yard; landfill	2, 3
·	122	Electrical Substation V and Compressor Plant	unknown	unknown	unknown	unknown	2
	123	Battery Overhaul	discharge of electrolyte from batteries to be reconditioned	used electrolyte (sulfuric acid and distilled water); soda ash (neutralizer)	100 gallons per minute when electrolyte was discharged	storm sewer system	1
		Plating Shop	electroplating; paint stripping; irriditing; parkerizing	cyanide plating solutions (copper, cadmium, silver); acid plating solutions (nickel, chrome, tin, lead, gold, brass); other chemical solutions (Penetol X, irridite, Parko-composition); acid solutions (chromic, nitric, sulfuric, phosphoric, fluoboric, and muriatic)	20 gallons per minute	storm sewer system	1
	124	Acid Mixing Plant	washdown of spilled acid; draining of acid tanks	sulfuric acid and distilled water (combined to form electrolyte for storage batteries)	1,000 gallons per month of washdown water	storm sewer system	1

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
B (con't)	128	Machine Shop	unknown	unknown	unknown	unknown	2, 3
1	130	Machine Shop and Metal Working Shop	poor housekeeping practices	waste oil; solvents; paints; acids; methyl ethyl ketone; toluene	unknown	unknown (possibly disposed of in two sumps in the building)	2, 3
	134	Inside Machining Shop	engine part cleaning; draining of chemical tanks and rinse tanks	chemical solution tanks: (1) Penesolve 814 (2) Penestrip CR	1 gallon per minute	combined sewer system; landfill	1
	141	Dock Shipwright's Shop	unknown	unknown	unknown	unknown	3
	146	Photography Development Laboratory	unknown	unknown	unknown	sump outside of building	2, 3
	156	Rubber Shop	manufacture rubber parts	unknown	unknown	unknown (sump inside building)	2, 3
	157	Non-destructive Testing Laboratory	metal fabrication; welding	oils; paints; sandblast waste	unknown	unknown	2, 3
С	203	Main Power Plant	boiler blowdown; backwash from zeolite water softeners	softeners: dilute sulfuric acid, salt solution	5,000 gallons per month; 1,500 gallons 10 times per month backwash	combined sewer system	1
	372	Prefab Decking Shelter	unknown	unknown	unknown	possibly in landfill	1 .
	208	Shop Services	unknown	unknówn	unknown	unknown	2, 3
	211	Machine and Electronic Test and Repair Shop	paint stripping; painting	sodium hydroxide; D-Floate; Steam-Kleen compound; various paints; paint sludges	0.5 gallon per minute	combined sewer systems; landfill	1
	215	Fire House	washing of apparatus	detergent	300 gallons per day	combined sewer system	1
	217	Sheet Metal Shop	spray painting	D-Floate; various paints; paint sludges	1 gallon per minute; 300 gallons twice per month	landfill; combined sewer system	1
	230	Machine Shop, Automotive Paint Shop	unknown	unknown	unknown	unknown	2, 3

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
C (con't)	231	Machine Shop	cleaning facility	chemical solution tanks: (1) sulfuric acid - 1 (2) phosphoric acid - 1 (3) sodium hydroxide - 3 (4) dichloro benzene - 2	2 gallons per minute; 5,000 gallons rinse water once per week; 3,000 gallons chemical solution once per month	combined sewer system	1
	231	Machine Shop	backwash from water demineralization plant; boiler blowdown	anion softeners - caustic solution; cation softeners - sulfuric acid solution; solvents; waste oils	2,000 gallons per month; 3,000 gallons four times per month (anion softeners); 1,500 gallons seven times per month (cation softeners)	combined sewer system; landfill	1
	232	Electronics Repair Shop	unknown	electronic parts; wiring; radium dials	100 pounds used parts per day	landfill	1
	241	Forge Shop; Foundry	unknown	unknown	unknown	unknown	2, 3
	253 (1st Floor)	Ordnance Shop	cleaning; paint stripping; steel painting	sodium hydroxide; stoddard solvent; Steam-Kleen; various paints	2 gallons per minute; 3,000 gallons chemical solution tank four times per year	combined sewer system	1
	253 (2nd, 4th, 5th Floors)	Electronic and Optical Shop	cleaning; paint stripping; aluminum and steel painting	sodium hydroxide; Oakite aluminum cleaner 164; various paints; stoddard solvent; Steam- Kleen	2 gallons per minute; 300 gallons chemical solution tank once per month	combined sewer system; landfill	1
	258	Pipe Cleaning Shop	draining of chemical tanks and rinse tanks	chemical solution tanks: (1) muriatic acid (2) sodium hydroxide (3) sulfuric acid (4) chromic acid (5) sodium hydroxide and Penesolve 814 (6) Penestrip CR	2 gallons per minute; 6,000 gallons per week	combined sewer system	1
	270	Paint Shop	paint bucket cleaning	sodium hydroxide; used paint buckets	100 gallons per day; 3,000 gallons chemical solution tank four times per year	combined sewer system	1
	271	Paint Shop	spray painting	D-Kleen; paint sludges; various paints	300 gallons once per week	landfill	1

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
C (con't)	272	Rigger's Shop	chain hoist cleaning	Steam-Kleen	100 gallons per day	combined sewer system	1
	275	Sheet Metal Annex and Aluminum Casting	unknown	aluminum oxide fines; casting sand containing cyanide	unknown	unknown	2, 3
	280	Aluminum Cleaning Facility	aluminum cleaning	chemical solution tanks: (1) sodium phosphate tribasic, (2) Wyandotte 2787 deoxidizer (no neutralization)	0.5 gallon per minute; 5,000 gallon rinse tank once per month; trisodium tank once per week; Wyandotte tank once every 6 months	combined sewer system	1
	281	Electronics-Weapons- Precision Facility	unknown	unknown	unknown	unknown (possibly into large sump/vat inside building)	2, 3
	282	Abrasive Blast Facility	sand blasting	sandblast material	unknown	unknown	2, 3
D	274	Decontamination Training Center	unknown	unknown	unknown	unknown	2, 3
-	302	Transportation Shop	transportation equipment cleaning	decarbonizer; degreaser; detergent; waste solvents; oils; greases	1 gallon per minute	combined sewer system; landfill	1
	302A	Transportation Shop Annex; Painting and Sandblasting Company	vehicle repair; sandblasting; painting	waste petrochemicals; paint; sandblast grit	unknown	unknown; possibly storm drains	2, 3
	304	Service Station; Painting and Sandblasting Company	unknown	unknown	unknown	unknown, possibly sewer system	2
	307	Electronic Assembly Facility	unknown	unknown	unknown	unknown (underground vaults west of building reportedly filled with hazardous waste and paved over)	2, 3
	323	Shore Activities Electronics	unknown	unknown	unknown	unknown	2
	351	Electronics Shop	photographic reproduction and photo developing	ammonium thiosulfate; silver; salts; acetic acid; sodium sulfite; sodium carbonate; minute quantities of cyanide; various chemicals washed off print paper	30 gallons per minute; 200 gallons per week from chemical solution trays	combined sewer system	1

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
D (con't)			cleaning and painting electronic equipment	Chem-mist detergent; very small quantities of alcohol and trichloroethylene	1 gallon per minute	combined sewer system	1
	351A	Electronics Shop	electronic equipment cleaning	Chem-mist detergent; small amounts of thinner and solvent	100 gallons per day	combined sewer system	1
	363	Woodworking Shop	unknown	unknown	unknown	unknown	2
	364	Radiological Research Operations - Chemistry	unknown	unknown	unknown	disposed of at sea or hauled away by licensed contractor (sump in back)	1
	366	Boat Plastic Shop	painting; washing	epoxides; polyester resin; methyl ethyl ketones	unknown	combined sewer system	1
	368	Pipefitting Shop	unknown	unknown	unknown	unknown	2, 3
	369	Rigging Shop	unknown	unknown	unknown	unknown	2, 3
	377	Poseidon Systems Test Engineering Building	unknown	unknown	unknown	unknown	2
	379	Poseidon Engineering Control Building	unknown	unknown	unknown	unknown	2
	380	Poseidon Partial Full Test Machine	unknown	unknown	unknown	unknown	2
1	381	West Coast Shock Test Facility	unknown	unknown	unknown	unknown	2
	382	Poseidon Arresting Engine Shelter	unknown	unknown	unknown	unknown	2
	384	unknown	unknown	unknown	unknown	sewer system	2
	385	Poseidon Building	unknown	unknown	unknown	unknown	2
	401	Public Works Shop	unknown	unknown	unknown	sewer system	2
	404	Storehouse; Sheet Metal Fabricator	unknown	unknown	unknown	unknown	2

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
D (con't)	411	Shipfitting Shop	pickling of structural steel; draining of rinse water tanks	chemical solution tanks: (1) sulfuric acid, sodium chloride, inhibitor (2) sodium dichromate, phosphoric acid	15,000 gallons water rinse tank once per month; each 15,000 gallon chemical tank 4 times per year	combined sewer system	1
			pickling of structural aluminum; draining of rinse water tanks and chemical tanks	chemical solution tanks: (1) Wyandotte M.F. acid, Altrex cleaner (2) Wyandotte 2487 acid	3 gallons per minute; 7,500 gallons per month	combined sewer system	1
			sandblasting	spent blasting grit and sand containing paint, scrapings, rust	1 gallon per minute; 190 tons per week	bayfill; landfill	1
	418	Q&RA Welding and Engineering Facility	unknown	unknown	unknown	unknown	2, 3
	419	Oxygen Converter Bldg.	unknown	unknown	unknown	unknown	2
	435	Equipment Storage Bldg.	spray painting	various paints; paint thinner; paint sludges	200 gallons per day; 300 gallons once per week	combined sewer system	1
	436	Material Storage Bldg.	garbage can washing	sodium hydroxide; detergent	2 gallons per minute; 500 gallons twice per year	combined sewer system; landfill	1
	438	Metal Spray Shelter	sandblasting	sandblast material; paint	unknown	unknown; possibly storm drain or sewer system	2, 3
	439	Sheet Metal Shop	unknown	unknown	unknown	unknown	2
	530	Automotive Hobby Shop	car washing; automotive repair	detergent	300 gallons per day	combined sewer system	1, 2, 3
	709	Navy Exchange Gas Station	unknown	petroleum products	unknown	unknown	2
	422, 423	Pickling and Plating Yard	industrial metal finishing; painting	acid; zinc chromate-based corrosion-resistant primer	15,000 gallons per month acid- contaminated rinse water	storm drain or sewer system	2, 3
	406, 413, 414	Storage buildings	storage, automobile repair, repainting	unknown	unknown	unknown	2
	704	Transportation shop shelter	autobody repair	unknown	unknown	unknown	2

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
D (con't)	606	Shore Intermediate Maintenance Activities (built in 1989 in area occupied by bldgs. 501, 502, 503, 507, 508)	unknown	unknown	unknown	unknown	2
Е	506, 507, 508, 509, 510	Radiological Research Operations - Radiochemistry, Biological Laboratory, Health Physics Office, Biology, Physics	unknown	(1) contaminated buildings cleaned, wastes placed in 55-gallon drums; (2) in 1950s, received radioactive material from University of California-Berkeley and Lawrence Livermore Laboratory; (3) radioactive liquids	Total: about 150 barrels radioactive waste per year handled, stored, transported off property between 1950 through 1959	(1) stored, then barged out to sea (Farallon Islands) and dumped; barrels encased in concrete; (2) trucked to berth 15, temporarily stored in 55-gallon drums, barged out to sea for disposal near Farallon Islands; (3) hauled away by licensed contractor. Between 1960 and 1969, all liquid and solid radioactive waste removed by licensed contractor to an approved Atomic Energy Commission landfill. Some wastes stored in Bldg. 364 and Area 707.	1
·	707	Naval Radiological Defense Laboratory - Animal Colony	disinfection; odor control	detergent	unknown	unknown; radiological wastes stored near Bldg. 707	2, 3
	708	Naval Radiological Defense Laboratory - Bio-Med Facility	unknown	unknown	unknown	unknown	2
	807	Scrap Yard Shed	unknown	unknown	unknown	unknown	2
	811	Service Station	unknown	unknown	unknown	unknown	2

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TABLE 1-3 (continued)

Parcel	Building	Facility	Waste Generation Process	Wastes Generated	Generation Rate	Disposition	Sources*
site-wide waterfront areas	none	Oil Reclamation Ponds	1 1	fuels reclaimed: bunker oil, lube oil, diesel oil; chemicals used: Dunkit (degreaser); Slix, Gamlen, and Clock 06:39 (oil emulsifiers)	14,000 gallons per day; 1,000,000 gallons per year	reclaimed oily wastewater to bay	1
	not applicable	Berths and Dry Docks	ship overhaul	luminescent radium dials	6,000 pounds over 25 years	landfill	1, 2

- Information for Table 1-3 was obtained from the following sources:
 - 1. NEESA 1984.
 - 2. Tetra Tech 1993a.
 - 3. PRC 1993a.

TABLE 1-4

HPA OFF-BASE PROPERTIES

Description	Acreage	Date of Acquisition	Environment Status	Location	Remarks
Railroad right-of-way	3.39	1945	Remedial Investigation	Extends to west of HPA	Direct public access with opportunity to dump paint/resin/oil spills, automotive parts, refuse/ debris

TABLE 1-5

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
A	019	8848	Apartments	Vacant	NAVSTA
A	100	150	Substation (Main Electrical)	Main Substation for Navy Power	NAVSTA
A	101	119800	Administration Office	Artistry and office space	J. Terzian
A	102	16954	Employment Office	Vacant	NAVSTA
В	103	14194	COMSUB Barracks	Artistry	J. Terzian
В	104	14194	Naval Reserve Armory	Artistry	J. Terzian
	105	540	Tower	Vacant	NAVSTA
	106	540	Tower	Vacant	NAVSTA
В	109	4448	Police Station	Office space	NAVSTA
Α	110	20502	Marine Barracks	Artistry and food services	J. Terzian
	111	218	Lube Oil Pump House, S-72	Not being used	NAVSTA
	112	567	Diesel Oil Pump House, S-72	Not being used	NAVSTA
В	113	25994	Tag Maintenance and Salvage, Substation "S"	Not being use	NAVSTA
В	114	14194	Q&RA Non-destructive Test Facility	Q&RA Non-destructive Test Facility	Smith Emery
В	115	13684	COMSUBGRUSFRAN Office and Training Building	Storage	Finish Work

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
В	116	18439	COMSUB Training Building	Vacant	Frame Works
В	117	14194	COMSUB Barracks	Artistry	J. Terzian
	118	. 23020	COMSUB BOQ and Mess Hall	Not being used	NAVSTA
	119	7640	COMSUB CPO Barracks	Not being used	NAVSTA
В	120	14008	Enlisted Men's Club	Athletic facility	Police Athletic Club
В	121	25000	Civilian Training Center	Office spaces	NAVSTA
В	122	3232	Substation "V" and Compressor Plant, S-03	Substation "V", S-03	NAVSTA
В	123	77178	Battery Overhaul and Storage	Electrical substation	NAVSTA
В	125	10416	Submarine Cafeteria	Workshop, offices, and storage	Bridenthal Cabinetry
В	128	24120	Shop Service and Work Control Ctr No. 1	Automobile shop	SFPD/Miller Pipeline
В	129	1400	Submarine Pier Office	Not being used	NAVSTA
В	130	32580	Shop Service	Paint workshop	Protective Finishes/NAVSTA
	131	936	Substation "U", S-03	Not being used	NAVSTA
В	132	1200	Service Craft Barracks	Not being used	NAVSTA
В	133	992	Latrine	Not being used	NAVSTA
В	134	51716	Machine Shop and QRA Offices, S-06 and 38	Marine refrigeration	Odaco, INC./NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
В	135	2200	Substation "G", S-03	Substation "G", S-03	NAVSTA
В	140	4494	Pump House - Drydock No. 3	Not begin used	NAVSTA
В	141	8400	Dock Shipwrights Shop, S-64	Not being used	NAVSTA
В	142	1650	Air Raid Shelter (Storage)	Not being used	NAVSTA
В	144	1053	Latrine	Not being used	NAVSTA
	145	510	Salt Walter Pump House, S-03	Not being used	NAVSTA
В	146	9750	TACON Facility, S-67	Environmental supply storage	NAVSTA
	150	280	Bus Shelter - Galvez Avenue	Not being used	NAVSTA
	152	172	Bus Shelter - Robinson Street	Not being used	NAVSTA
С	154	1056	Area Time Office No. 1	Not being used	NAVSTA
	155	486	LISTED AS DEMOLISHED	Not being used	NAVSTA
В	156	4000	Rubber Shop, S-56	Not being used	NAVSTA
В	157	2440	Q&RA Ind. Lab. Non-destructive Test	Not being used	NAVSTA
	158	30	Sentry House - Main gate	Sentry House - Main Gate	NAVSTA
В	159	2125	Latrine	Not being used	NAVSTA
	160	2125	Sewage Pump Station "D", S-07	Not being used	NAVSTA
	161	260	Maintenance Service Center, S-07	Not being used	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
	162	201	Paint Storage, S-71	Not being used	NAVSTA
	163	690	Rubber Shop Annex, S-56	Not being used	NAVSTA
С	203	17171	Power Plant-Substation "H", S-03	Power Plant - Substation "H", S-03	MINSY/NAVSTA
С	204	624	Salt Water Pump House, S-03	Not being used	NAVSTA
С	205	10282	Pump and Compressor Plant - DD 2, S-03	Not being used	NAVSTA
С	206	5668	Substation "A" and Compressor Plant, S-03	Not being used	NAVSTA
С	207	4253	Latrine	Not being used	NAVSTA
С	208	5048	Shop Service	Not being used	NAVSTA
C	211	63263	Electric Shop, S-31 and 51	MARAD ship equipment storage	MARAD
С	214	28648	Combat Weapons Systems Office	Administrative offices	NAVSTA
С	215	11998	Firehouse	Firehouse	NAVSTA
С	217	44120	Sheetmetal Shop, S-17	Storage	PERA CSS
С	218	705	Latrine	Not being used	NAVSTA
С	219	3721	Substation "E", S-03	Substation "E", S-03	NAVSTA
С	224	2040	Air Raid Shelter (Storage)	Not being used	NAVSTA
С	225	6188	Work Control Center No. 2	Not being used	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
С	226	1209	Latrine	Not being used	NAVSTA
C	228	34836	Central Cafeteria	Not being used	NAVSTA
	229	630	Substation "L", S-03	Substation "L", S-03	NAVSTA
C	230	5834	Shop Service, S-56	Automobile Body Shop	ERMICO Enterprises
С	231	191497	Machine Shop, S-31	Not being used	NAVSTA
	234	1800	Latrine and Ships Office	Not being used	NAVSTA
	235	782	Supervision and Storage, S-17		NAVSTA
С	236	450	Salt Water Pump House, S-03	Salt Water Pump House, S-03	MINSY
С	241	15447	Forge Shop, S-23	Not being used	NAVSTA
С	251	56163	Industrial Relations and Central Tool Room, S-99	Not being used	NAVSTA
С	252	8274	Bus Terminal	Bus Terminal	Golden Anchor Restaurant
С	253	195347	Electronics, Optical, and Ordinance Shops	MARAD ships parts storage	MARAD
	254	486	Unknown	Not being used	NAVSTA
С	258	72834	Pipefitters Shop	Not being used	NAVSTA
С	270	23637	Paint Shop, S-71	Equipment storage and Office space	SUPSHIP

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
С	271	8013	Paint Shop Annex, S-71	Equipment storage/Barge services office	SUPSHIP
C	272	42923	Shop Service Group, S-64, 71, 72, 99	Machine shop	Carpenter Rigging and Supply Co.
	273	544	Substation "GH-2", S-03	Substation "GH-2", S-03	NAVSTA
D	274	4000	Decontamination Training	Not being used	NAVSTA
С	275	4013	Sheet Metal Annex, S-17	Workshop	ERMICO Enterprises
	276	192	Substation for Portrans, S-03	Not being used	NAVSTA
	277	192	Substation for Portrans, S-03	Not being used	NAVSTA
	280	1790	Covered Work Area S-17	Not being used	NAVSTA
С	281	45000	Electronics-Weapons-Precision Facility	Electronics-Weapons-Precision Facility	OLA OAKLAND
С	282	9600	Abrasive Blast Facility	Not being used	NAVSTA
	300	1452	Substation "N", S-03	Substation "N", S-03	MINSY
С	301	4416	Latrine	Latrine	MINSY
D	302	44775	Transportation Shop, S-03	Not being used	NAVSTA
	303	5795	Transportation Shop Annex, S-02	Not being used	NAVSTA
D	304	1070	Service Station, S-02	Not being used	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
	305	800	Storage	Not being used	NAVSTA
D	306	1752	Substation "I", S-03	Substation "I", S-03	NAVSTA
D	307	10000	Electronic Assembly	Unknown	NAVSTA
D	308	1463	Salt Water Pump House, S-03	Salt Water Pump House, S-03	MINSY
D	311	1800	Latrine and Ships Office	Not being used	NAVSTA
	319	1575	Sand Blast Annex, S-71	Not being used	NAVSTA
A	322	858	Security Guard and Pass Office	Security Guard and Pass Office	NAVSTA
D	. 323	4000	Shore Activities Electronics	Artistry	J. Terzian
D	324	6000	C02 Refilling Station, S-99	Not being used	NAVSTA
D	351	38204	Electronics Shop	Not being used	NAVSTA
	352	22879	Electronics Shop Annex	Not being used	NAVSTA
D	363	21471	Woodworking Shop, S-64	Workshop	Quality Craftsman
	364	2255	Storage Building	Workshop	Young's Lab
D	365	842	Storage Building	Not being used	NAVSTA
D	366	36313	Boat and Plastic shop, S-64	Workshop	Christian Engineering/J. Terzian
С	367	2306	Ship Supt. Field Office	Ship supt. Field Office	MINSY
D	368	8000	Shop Service	Not being used	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
D	369	8810	Shop Service	Not being used	NAVSTA
D	370	1209	Latrine	Not being used	NAVSTA
D	371	2460	Equipment Storage, S-02	Storage	S&W Productions/Circosta
D	372	2875	Prefab Decking Shelter, S-64	Storage	MINSY
	373	1000	Poseidon Control Hut No. 2 and 5	Not being used	NAVSTA
	374	1000	Poseidon Office and Instrument Hut	Not being used	NAVSTA
	375	1000	Poseidon Control Hut No. 3 and 4	Not being used	NAVSTA
	376	480	Poseidon Control Hut No. 1	Not being used	NAVSTA
	377	4240	Poseidon Systems Test Engineering	Not being used	NAVSTA
D	378	800	Latrine	Not being used	NAVSTA
D	379	1280	Poseidon Instrumentation and Control	Not being used	NAVSTA
D	380	2084	Poseidon Partial Full Test Machine	Not being used	NAVSTA
D	381	4000	West Coast Shock Test Facility	Not being used	NAVSTA
	382	1140	Poseidon Arresting Engine Shelter	Not being used	NAVSTA
D	383	10200	Shipping and Receiving Building	Office space	NAVSTA
D	384	4664	Poseidon	Not being used	NAVSTA
D	385	3672	Poseidon	Not being used	NAVSTA

HPA ON-BASE TENANTS

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
D	400	45907	SOAP Storehouse	Storage	PERA CSS
D	401	44064	Public Works Shop, S-03 and 07	Artistry/Workshop	Diapaoloa and Barber/ J. Heagy/S.L. Gor
D	402	36314	Storehouse and Q&RA Offices	Moving and Storage	Franciscan Moving and Storage
	403	174	Bus Shelter - E. of Bldg. 505	Not being used	NAVSTA
D	404	50859	Storehouse	Workshop	Mina Metal Corp.
D	405	42183	Storehouse	Storage	Clean Comp
D	406	42183	Storehouse	Office space and storage	Don Holsworth/B&A Towing
D	407	42183	SOAP Offices and Storehouse	Moving and storage	NAVSTA
D	408	1836	Furnace Shelter, S-11	Not being used	MINSY
D	409	230	Welder Motor Generator Hut, S-11	Not being used	MINSY
D .	410	230	Welder Motor Generator Hut, S-11	Not being used	MINSY
D	411	287976	Shipfitters Shops, S-11, 26, 41	Workshop	Christian Engineering/ Eric Lansdown
	412	82	Railroad Scales, S-02	Railroad Scales, S-02	NAVSTA
D	413	30596	Storehouse	Office Space	NAVSTA
D	414	33468	Public Works Furniture Storehouse	Storage	PRC
	415	4000	Storehouse	Not being used	NAVSTA

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HPA ON-BASE TENANTS

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
	416	4000	Storehouse	Not being used	NAVSTA
	417	500	Acetylene Manifolding, S-11	Storage	Hydro Chem Services
D	418	1387	Q&RA Welding Engineering Facility	Offices/Minor workshop	Hydro Chem Services
D	419	682	Oxygen Converter, S-99	Storage	NAVSTA
D	420	1320	Oxygen Cylinder Charging, S-99	Not being used	NAVSTA
	421	96	Oxygen Control, S-99	Not being used	NAVSTA
	422	396	Office and Latrine	Not being used	NAVSTA
	423	392	Compressor Hut and Paint Storage, S-11	Not being used	NAVSTA
D	424	805	Area Time House No. 4	Storage	Hydro Chem Services
D	435	3000	Equipment Storage, S-07	Storage	West Edge Division
D	436	3000	Material Storage, S-07	Storage	NAVSTA
D	437	984	Pipe Storage, S-07	Artistry	J. Terzian
D	438	432	Metal Spray Shelter, S-11	Not being used	MINSY
D	439	100000	Sheet Metal Shop	Not being used	Joint Military Postal Activity
D	500	22572	CPO Barracks	Not being used	NAVSTA
D	505	30704	Navy Exchange	Not being used	NAVSTA
E	521	6393	Power Plant - South Area, S-03	Not being used	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
D	523	574	Salt Water Pump House, S-03	Not being used	NAVSTA
D	525	4000	Storehouse	Not being used	NAVSTA
D	526	4000	Storehouse and Offices	Not being used	NAVSTA
Е	527	408	Substation	Substain	NAVSTA
	528	215	Substation	Not being used	NAVSTA
D	530	3200	Automotive Hobby Shop	Not being used	NAVSTA
Е	600	104537	Bachelor Enlisted Mens Quarters	Not being used	NAVSTA
	606	89600	SIMA (New)	Offices (COMM Center)	Joint Military Postal Activity
D	704	8013	Transportation Shop Shelter, S-02	Workshop	Wagner Construction
Е	707	5136	NRDL Animal Colony	Not being used	NAVSTA
Е	708	1859	NRDL Bio-Med Facility	Not being used	NAVSTA
D	709	1263	Navy Exchange Gas Station	Not being used	NAVSTA
	710	88	Latrine	Not being used	NAVSTA
E	807	1482	Scrap Yard Shed	Not being used	NAVSTA
A	808	45766	Storehouse	Storage	Precision Transport
E	809	11159	Storehouse	Railroad Museum	Golden Gate Railroad Museum
Е	810	20350	Storehouse	HazWaste collection point	NAVSTA/WESTDIV

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
	811	171	Diesel Oil Platform, S-02	Diesel Oil Platform, S-02	NAVSTA
A	813	276916	Storehouse and Offices	Offices/Warehouse space/CATS	SUPSHIP/PERA CSS
Α	816	6134	NRDL - High Voltage Accelerator	Vacant	NAVSTA
	817	30	Sentry House - Outside South Gate	Not being used	NAVSTA
. A	818	204	Chlorinating Plant	Vacant	NAVSTA
A	819	1265	Sewage Pump Station "A"	Sewage Pump Station "A"	NAVSTA
Α	821	971	X-Ray Shield Facility	Vacant	NAVSTA
	822	30	Sentry House - South Gate	Not being use	NAVSTA
	823	400	Standby Generator Building	Standby Generator Building	NAVSTA
Α	901	15134	Commissioned Officers Mess	Vacant	NAVSTA
Α	906	672	Gardeners Tool Shed	Vacant - to be demolished	NAVSTA
A	907	1092	Garage (5 Car)	Vacant	NAVSTA
Α	908	1743	Garage (8 Car)	Vacant	NAVSTA
A	909	462	Garage (2 Car)	Vacant	NAVSTA
Α	915	1790	Bank	HPA OIC Office	NAVSTA
Α	916	9304	CPO Mess and Package Liquor Store	Restaurant	Dago Mary's
Α	921	40000	Bachelors Officers Quarters	Vacant	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
A	A	5202	Quarters - Shipyard CO	Vacant	NAVSTA
A	A-2	488	Quarters	Vacant	NAVSTA
Α	В	2544	Quarters	Vacant	NAVSTA
A	С	2385	Quarters	Vacant	NAVSTA
A	D	2974	Quarters	Vacant	NAVSTA
A	E	2280	Quarters	Vacant	NAVSTA
A	F	1877	Quarters	Vacant	NAVSTA
A	G	1745	Quarters	Vacant	NAVSTA
Α	Н	1593	Quarters	Vacant	NAVSTA
Α	I	1375	Quarters	Vacant	NAVSTA
A	J	1953	Quarters	Vacant	NAVSTA
Α	К	2806	Quarters	Vacant	NAVSTA
Α	L	1792	Quarters	Vacant	NAVSTA
Α	М	1792	Quarters	Vacant	NAVSTA
Α	N	1792	Quarters	Vacant	NAVSTA
Α	0	1792	Quarters	Vacant	NAVSTA
A	0-14		Quarters (trailer)	Vacant (fire gutted)	NAVSTA

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
A	R	2252	Quarters	Vacant	NAVSTA
A	R-100	630	Quarters	Vacant	NAVSTA
A	R-105	2040	Quarters	Vacant	NAVSTA
A	R-107	1265	Quarters	Vacant	NAVSTA
A	R-118	1305	Quarters	Vacant	NAVSTA
A	R-14	850	Quarters	Vacant	NAVSTA
Α	R-26	938	Quarters	Vacant	NAVSTA
Α	R-33	736	Quarters	Vacant	NAVSTA
A	R-36	808	Quarters	Vacant	NAVSTA
A	R-36A	558	Quarters	Vacant	NAVSTA
Α	R-39	740	Quarters	Vacant	NAVSTA
A	R-45	761	Quarters	Vacant	NAVSTA
A	R-66A	1460	Quarters	Vacant	NAVSTA
A	R-76	1690	Quarters	Vacant	NAVSTA
Α	R-77	294	Quarters	Vacant	NAVSTA
A	R-78	1854	Quarters	Vacant	NAVSTA
A	R-94	669	Quarters	Vacant	NAVSTA

TABLE 1-5 (Continued)

HPA ON-BASE TENANTS

PARCEL	BLDG NO.	AREA (sq ft)	FORMER SHIPYARD USE ('40 -'74)	CURRENT USE	TENANT ('86 -'93)
A	R-95	1360	Quarters	Vacant	NAVSTA
A	R-97	494	Quarters	Vacant	NAVSTA
A	S	1752	Quarters	Vacant	NAVSTA
Α	Т	1239	Quarters	Vacant	NAVSTA
Α	TANK		Water Storage	Inactive	NAVSTA
A	U	2286	Quarters	Vacant	NAVSTA
A	V	1221	Quarters	Vacant	NAVSTA
A	w	1830	Quarters	Vacant	NAVSTA
A	Х	1025	Quarters	Vacant	NAVSTA
A	Y	1122	Quarters	Vacant	NAVSTA
A	Z	1446	Quarters	Vacant	NAVSTA

Source: Database of HPA buildings, 1993

TABLE 1-6

HPA CURRENT AND PAST TENANTS

Tenant (current tenants in bold)	Property
Jacque Terzian Patterns, LTD, The Point	Building 101, 103, 104, 110, 117, 323, 366, 435
Harbor Leasing & Sales	Building 109
Finish Works	Building 115
Micro Kinetics, Inc.	Building 115
Sonic Incision	Building 115
Frame Works	Building 116
David Lowery	Building 116
Mokko Shop	Building 116
Moosewood Furniture	Building 116
Police Athletic Club	Building 120
Larry Biggs	Building 121C
Plastic Fabrication	Building 121D, 121E
TDJT Inc.	Building 121F
Wendell Clark	Building 121H, 121I
Ocean Spray Plastering	Building 121K
Thee Tireman	Building 121L
All Make Auto A/C	Building 123
First Metal & Chemical	Building 123
Mann Endless Cassettes	Building 123
Tad Bridenthal	Building 125
City and County of San Francisco*	Building 128
Miller Pipeline Co.	Building 128
Engel Engineering	Building 130
Protective Finishes	Building 130
Cal-Marine Works	Building 134
Odeco, Inc.	Building 134
Smith-Emery Co.	Building 114
A & D Marine Rubber	Building 154
Morgan Marine & Chemical Co.	Building 156
Western McArthur	Building 205
Franciscian Moving	Building 402
Hinshaw Safety Shoes	Building 228

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TABLE 1-6 (Continued)

HPA CURRENT AND PAST TENANTS

Tenant (current tenants in bold)	Property
Golden Gate Heat Treating	Building 241
Golden Anchors Cafe	Building 252
Carpenter Rigging	Building 272
Douglas & Karen Holmes	Building 274
Ermico Enterprises	Building 275, 230
Ara Exploration	Building 323
Sunset Fire Protection	Building 324
Steam Valve Machine	Building 351
Heritage Ornaments	Building 351
Environmental Measures	Building 351A
Studio D	Building 351
Quality Craftsman*	Building 363
Young Laboratories	Building 364
Christian Engineering	Building 366, 411
Dymax Packaging	Building 366A, 415
Patterns, LTD.	Building 368
Universal Painting	Building 369
S & W Productions	Building 371
Circosta Iron & Metal	Building 371 & Lot
Di Paolo & Barber	Building 401
Eagle Security	Building 401
S. L. Gordon'	Building 401
James Heagy	Building 401
Point Woodworks	Building 401
Patricia Powers	Building 401
West Edge Design	Building 401
Bernard Baudet	Building 401
Mina Metals	Building 404
Shamrock Enterprises	Building 404
Miracle Mushrooms	Building 405
Clean Compost	Building 405

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TABLE 1-6 (Continued)

HPA CURRENT AND PAST TENANTS

Tenant (current tenants in bold)	Property
Donald Holsworth	Building 406
Mike's Mobile Repair	Building 406
Paul's Auto Repair	Building 406
American Van Lines	Building 407
Alamo Body Works	Building 411
Classical Construction	Building 411
Eric Lansdown	Building 411
Farrell Lines	Building 416
Hydro Chemical Service	Building 418
James Treadwell	Building 600 (Lot)
California Debris Box	Building 704
Wagner Construction	Building 704
Pet Express	Building 707
Precision Transport*	Building 808
Black Top Service	Building 810
Bay Area Wastewood	Lot Behind Building 810
Dago Mary's	Building 916
San Francisco Asphalt Co.	Lot Near Pier 2
Astro Copters	Lot Near Marina
Roger Berry	Lot Near Manseau St.
Project 2472, Inc.	Track (Crisp)

Sources: WESTDIV, 1986 HPA Tenants List

* WESTDIV Real Estate Department. 1993 Master Tenants List. Only these tenants are still present.

TABLE 1-7

HPA PROPERTY ACQUISITION SUMMARY TABLE

		Acreage		
Tract	No./Previous Land-Owner	Fee Land	Easement Land	Acquisition Date
1.	Bethlehem Steel Co.	48.65	·	11/12/40
2.	Carrie F. Rednall et. al.	270.17		4/15/42
3.	Matilda P. Andrews II et. al.	187.42		7/25/42
4.	Nick J. Suttich et. al.	0.66		4/9/42
5.	William H. Ash et. al.	60.39		4/29/43
6.	Southern Pacific Co. et. al. City and County of San Francisco	3.39		6/10/45
7.	There is no record of this tract	No Area		
8.	Federal Public Housing Agency	0.72		9/14/45
9.	So. San Francisco Drydock Co. et. al.	5.68		7/10/47
10.	Public Housing Administration	2.18		1/15/50
11.	Public Housing Administration	11.60		10/27/55
12.	Chas. L. Harney et. al.	Area A - 84.91		3/27/57
		Area B - 166.73	-	
		Area C - 45.30		
		Area D, E & F - 8.71		
		Area G - 33.41		
13.	Rose Cavenough et. al.	0.63	_	6/21/57
14.	Higgins and Son Realty Co.	0.34		5/23/57
15.	Eliz. Hurney McAllister	0.12		5/15/57
16.	Florence M. Toye et. al.	1.38		6/28/57
17.	Stauffer Foundation	0.17		6/3/57
18.	Anna Mount and Rosettai Wright	0.17		6/5/57
19.	James Cox	0.05		5/15/57
20.	Tom and Yukhong Toy	0.17		5/8/57
21.	Marcel J. and Theresa F. Bouscal	0.05		5/20/57

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TABLE 1-7 (Continued)

HPA PROPERTY ACQUISITION SUMMARY TABLE

	Acreage		
Tract No./Previous Land-Owner	Fee Land	Easement Land	Acquisition Date
	0.05	Lanc	5/6/57
22. Nellie Loffler			
23. Richard Sin and Soo Yoke Chin Sing	0.12		5/13/57
24. Peter A. a Priscilla M. Lolich	0.12		5/20/57
25. Margaret O. Cornell and Albert A. Cornell	0.23		5/3/57
26. Jennie Parke Hughes	0.12		4/30/57
27. Harriet E. Jeffress	0.06		5/17/57
28. Joe Ghiselli et. al.	0.06		5/8/57
29. The Roman Catholic Archbishop of S.F.	0.34		5/23/57
30. There is no record of this tract			
31. Lytton H. and May Schwerin	0.23		5/28/57
32. Paula A. and Indalecio Corona	0.12		5/6/57
33. Ofelia Corona	0.06		5/6/57
34. City and Co. of San Francisco	0.02		1/7/66
35. PT and T; PG&E	No Area (Pole Agreement)		6/16/66
36. Retained from Quitclaim Deed from Navy to San Francisco Redevelopment		1.84	10/1/80
TOTAL	934.53	1.84	

Source: WESTDIV Real Estate Summary Maps, 1990

CHAPTER 2 PROPERTY DISPOSAL AND REUSE PLAN

2.1 STATUS OF PROPERTY DISPOSAL PLANNING PROCESS

The disposal of HPA involves several interrelated activities: preparation of this BCP by the BCT, the Navy's investigation and remediation of contaminated sites required by CERCLA and RCRA, the preparation of an environmental impact report by the San Francisco Redevelopment Agency (SFRA), as required by the California Environmental Quality Act, and development of a community reuse plan by the SFRA. The Navy must also carry out the requirements of CERFA, pertaining to the identification and transfer of uncontaminated properties at closing installations. These uncontaminated properties are to be documented with an EBS. Also, before any additional portion of HPA may be released for public reuse, the DoD requires that a Finding of Suitability to Lease (FOSL) or a Finding of Suitability to Transfer (FOST) be prepared. The FOST and FOSL processes are described in more detail below. In addition, DoD, EPA, and the state must concur with the identification of uncontaminated properties as required by CERFA (no properties have been identified yet that qualify as clean under CERFA). When transfer occurs, the Navy must comply with the National Environmental Policy Act (NEPA), and the city must comply with the California Environmental Quality Act. Further, since HPA is a coastal property, it has to comply with the Coastal Management Act for the purpose of future land use. The Bay Conservation and Development Commission oversees the implementation of this Act. None of these activities has yet been completed.

Investigation and remediation of contaminated sites is currently under way. Sites still exist at HPA in all stages from initial discovery, through completion of cleanup or determination of no further action.

According to SFRA, a four-part process is underway to prepare a Community Reuse Plan (Rhett 1993). In the first part of this process, the SFRA has hired a consultant to prepare an "Existing Conditions Report," which will describe the facility, its buildings, roads, and utilities. This report, scheduled for completion in early 1994, will also describe the environmental conditions at HPA, including restoration sites and other environmental compliance programs.

HPA BCP, (11:00 am) HPABCP.TXT (March 5, 1994) In the second part of the process, the SFRA and the city planning department will generate several optional reuse scenarios, also referred to as "program alternatives," for HPA property. These program alternatives will then be evaluated by SFRA's transportation and economic consultants.

In the third part of the process, the SFRA will prepare a community reuse plan, based on the program alternatives selected by the economic and transportation consultants. The community reuse plan is scheduled for completion in September or October 1994.

As a fourth part of the process, the SFRA will prepare an environmental impact report as required by the California Environmental Quality Act. This report is similar to an EIS prepared under NEPA by federal agencies.

An EBS is being currently prepared by WESTDIV contractor, Tetra Tech. The 60 percent draft was completed in September 1993, and is now being reviewed and revised. The final EBS is scheduled for publication in 1994.

2.2 RELATIONSHIP TO ENVIRONMENTAL PROGRAMS

Property disposal and reuse activities at HPA are intimately linked to environmental investigations, restoration, and compliance activities for two reasons:

- Federal property transfers to non-federal parties are governed by CERCLA Section 120(h)(3)(B)(i).
- Residual contamination may remain on certain parcels after remedial actions have been completed (or while reclamation is occurring), thereby restricting the future use of those parcels.

CERCLA Section 120(h)(3)(B)(i) requires that the deed for federal transfer of previously contaminated property contain a covenant that all remedial actions necessary to protect human health and the environment have been taken. CERFA, the 1992 amendment to CERCLA, provided clarification of the phrase "have been taken." This clarification states that all remedial actions have been taken if the construction and installation of an approved remedial design has been completed,

and the remedy has been demonstrated to the EPA Administrator to be operating properly and successfully. It further states that the carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the EPA Administrator to be operating properly and successfully, does not preclude the transfer of the property. This deed requirement applies only to property on which a hazardous substance was stored for 1 year or more, or is known to have been disposed of or released. Thus, any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfers to private parties can occur.

The requirement for complying with CERCLA 120(h) and the possibility of residual contamination will be factored into the property disposal and reuse process at HPA.

Table 2-1 lists all of the parcels showing known IR, PA, and UST sites on each. The projected date of transfer, the transfer mechanism, and the recipient are also shown. The portions of HPA property that are under water, however, are not addressed in Table 2-1. The BCT should prepare a description of the nature and extent of contamination that may be in sediments, and should evaluate reasonable alternatives to prepare these properties for release to prospective recipients.

2.3 PROPERTY UNSUITABLE FOR RELEASE

Parcel E, comprising the Industrial Landfill (IR-01) and the Bay Fill Area (IR-02), or portions of Parcel E may be unsuitable for release to the public. These landfills received a wide variety of hazardous as well as radioactive wastes that were generated on site. It is suspected that radioactive materials such as radioluminescent dials, gauges, deck markers, and other components of electronic equipment may have been disposed of in the landfills. Prior to the 1970s, most radioluminescent equipment used by the military contained radium-226 (226Ra) or strontium-90 (90Sr) mixed into a phosphorescent paint base. The paint absorbed the radiation particles emitted from 226Ra and 90Sr and was induced to emit visible light. The paint was applied to numerals and markers on some equipment so that they could be read in the dark. IR-02 contains an area where 226Ra-containing materials were buried; 90Sr has not been identified in the landfill. The area has approximate surface dimensions of

450 feet by 600 feet, Environmental investigations, concluded in 1993, have shown that ²²⁶Racontaining materials are located to an approximate depth of 8 feet within this area.

Because of the large volume of potentially contaminated soil and the difficulty of locating, segregating, and removing all of the hazardous waste and radioactive items, some areas of parcel E may remain unsuitable for beneficial reuse or deed transfer for the foreseeable future. The Navy Radiation Affairs Support Office (RASO) has stated that they would not support a transfer of property with any known radiological materials remaining.

2.4 STRATEGY FOR INVESTIGATION AND REMEDIATION

The strategy for addressing contamination at HPA is to complete IR-related work at parcels A through E in sequence. The Navy is also preparing an EBS to help identify property that is uncontaminated and may be ready for release in advance of completing CERCLA work at other areas of the facility. This sequence follows the intended acquisition sequence indicated by the SFRA. The BCT intends to continue developing a strategy focused on identifying removal actions, interim remedial actions, and presumptive remedial actions where available information allows the BCT to reach consensus. The strategy will only allow action that expedites and improves environmental response actions in order to facilitate the disposal and reuse of HPA, while protecting human health and the environment. Several such actions have already been taken, but there is a need to expedite the community reuse plan. The specific elements of the strategy are discussed in more detail in Section 3.1.

Schedules for completion of RI and Feasibility Study (FS) work under the FFA were agreed to for parcels B through E on February 4, 1994, and are included as Appendix A to the FFA. These schedules are also included below in Chapter 5. A revised schedule for parcel A will be negotiated soon, some time after the February 9, 1994 cutoff date for additions to this version of the BCP. Recent samples taken from groundwater at parcel A indicate that it may be contaminated with motor oil. Because of this, a groundwater investigation will be needed before property transfer can be completed. These FFA schedules will be provided to all appropriate parties, including the HPA RAB.

2.5 PROPERTY TRANSFER METHODS

As discussed in Section 1.5.3, there were a few earlier transfers of HPA property to other parties. Buildings 815 and 820 were transferred to a private owner, and building 830 was transferred to the University of California at San Francisco. Also, a parcel of HPA property located northwest of parcel A was transferred to the City of San Francisco and has been developed for housing.

The Navy is currently negotiating transfer of all parcels to the City of San Francisco. A memorandum of understanding was signed by the Navy and Francisco's mayor in January 1994, signifying the beginning of the transfer process. The City will likely acquire Parcel A first, but it will likely be years before the cleanup of the next parcel, parcel B, is complete. Subject to approval by the Board of Supervisors, the City will purchase the first 50 acres of Parcel A for one dollar, and will manage all of the HPA acreage. The City will purchase for one dollar each remaining parcel at HPA as it is cleaned of toxic waste. A copy of the memorandum of understanding is attached as Appendix C.

Several mechanisms exist for property transfer of parcels at HPA. Parcels may be identified for transfer based on a FOSL or a FOST. These mechanisms will be developed and incorporated as the HPA base closure continues. The following summary details the required policy that will be followed as the FOSL/FOST process continues. Existing leases are also summarized.

2.5.1 FOSL Review Process Policy Summary

The DoD policy for the FOSL review is summarized below:

PROCEDURES AND RESPONSIBILITIES

A. Regulatory agencies will be notified at the initiation of the EBS and the FOSL. The process of development of these documents will be designed to ensure that regulators have an adequate opportunity to express their views. Regulators will be provided with workable draft documents as they become available. Regulator comments received during the development

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- B. As required by CERCLA Section 120(h)(5), DoD shall notify the state before entering into any lease that will encumber the property beyond the date of termination of DoD's operations. These notifications shall include the length of lease, the name of the lessee, and a description of the uses that will be allowed under the lease. At National Priorities List (NPL) sites, DoD shall provide this notification to the EPA as well.
- C. The DoD components will provide public notice of the signing of the FOSL, and will retain the signed FOSL, including all regulator comments on and responses to the EBS and/or FOSL, in the transaction file (and the administrative record, where applicable), and will make the FOSL available to the public upon request.
- D. The EBS and the FOSL will be provided to each lessee before to execution of the lessee.
- E. Conditions will be included in the lease to ensure:
 - 1. Notification of the existence of an FFA, interagency agreement (IAG), or other regulatory agreements, orders, or decrees for environmental restoration (e.g., RCRA, HSWA permit), if any. Terms of the lease shall not affect the rights and obligations of parties under the FFA, IAG, or other regulatory agreements, orders, or decrees.
 - 2. Environmental investigations and response oversight and activities will not be disrupted. Such conditions will include, but are not limited to:
 - a. Providing for continued access by DoD and regulatory agencies to investigate as required the real property, and adjacent property to monitor the effectiveness of the cleanup as required, to perform 5-year reviews as required, and/or to take additional remedial or removal actions as required. At a minimum, such rights shall include all those existing under the FFA.

- b. Ensuring that the proposed use will not disrupt remediation activities.
- 3. Human health and the environment are protected by preventing the inappropriate use of the property.
- 4. Compliance with health and safety plans.
- 5. Subsequent transactions involving the property shall include such provisions.
- F. Model lease provisions will be included in all outleases and subleases, unless determined not to be in appropriate by the DoD component in consultation with the appropriate EPA or state representative. This determination will be documented by the DoD component.
- G. Leases will provide that both the EBS and restrictive conditions in the lease, dealing with environmental requirements limiting use, will also be included in subleases as they occur. Copies of all subleases will be provided to the DoD components with jurisdiction over the parcel, retained in the transaction file and made available to the public upon request.
- H. Amendments, renewals or extensions of leases shall not require a new (or updated) EBS or FOSL unless the leased premises change substantially or the permitted uses are to change in environmentally significantly ways.

2.5.2 FOST Review Process Summary

The DoD policy for FOST reviews of base property has not been finalized. When available, the FOST policy will be incorporated into later versions of the BCP.

2.5.3 Interim Leases

As of December 31, 1993, the Navy has entered into several legal agreements allowing interim uses of certain base lands and facilities. Leases have been issued to a variety of parties. These leases and parties are identified in Table 1-5.

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
A	90 (total)	1	Buildings formerly used for military housing; some structures have been demolished. Recently a debris pile was discovered in the vicinity of 0-36 after a groundwater sample indicated a motor oil sheen. Due to this finding, the Navy will conduct additional investigation of groundwater in the upland area of parcel A, near Jerrold Avenue.		1994	No Cost Public Benefit Conveyance	City of San Francisco
			Building 102 was a former post office; Building 915 was a former bank that was also used for military housing; limited amounts of hazardous materials were used; no spills were recorded; asbestos is present in most buildings*.				
			Building 816 was used as a Naval Radiological Defense Laboratory; currently vacant; elevated levels of lead and zinc have been noted, but are considered to pose no risk to human health.	PA-41			
			Building 818 was used as a chlorination plant for potable water; currently not in use; chlorine gas was used, no releases were recorded.	PA-41			
			Building 808 was used for storage of small caliber munitions; formerly used for storage of hazardous dry goods; floor staining was observed; however, no releases have been reported.				
			Undeveloped hillside due to slope instability; no history of hazardous materials use is available.				

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
A (continued)	90	1	Building 821 was used as an X-ray shield facility; Substation 'F' is still used in the electrical utility system; transformer was removed from Substation 'F'; no evidence of hazardous materials use or storage available.		1994	No Cost Public Benefit Conveyance	City of San Francisco
			Building 813 was used as a warehouse and office building; a fuel oil UST was removed from this area; paints and solvents were stored in this area; low level soil and groundwater contamination with metals, VOCs, and diesel oil was observed but not confirmed in subsequent investigation.	UST S-812			
			Buildings 819 and 823 are used as the sanitary sewage pumping station; also houses a natural gas powered emergency generator; stored buckets of hazardous materials, some which leaked, but have been removed.				
			Buildings 101 and 110 formerly used as offices, photo lab, marine barracks, and galley; currently used as office space, art studios, art commercial kitchens; variety of hazardous wastes have been stored on site; asbestos is present in the buildings*.		And the state of t		
			Building 906 was used as a gardeners tool shed; building was used to store hazardous chemicals before demolishing; soil samples indicated presence of detectable levels of organics and inorganics; subsequent investigation by excavation has removed soils with concentrations above human health risk.	PA-43			
			Buildings 901 and 921 were used as a dining hall and bachelor officers quarters; currently unused; small quantities of hazardous materials were stored in the area; asbestos is present at this location*.	PA-19			

REUSE PARCEL DATA SUMMARY

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
A (continued)	90	1	Building 322 and associated access roads are used as a guard and pass office and main access road way system; main utility lines serving Parcel A is located in this area; pipes are reported to be covered with asbestos pipe lagging*; no record of hazardous material use or generation is available.	PA-45, PA-50	1994	No Cost Public Benefit Conveyance	City of San Francisco
			Building 19 was formerly used as an apartment building; Building 916 was formerly used as a restaurant and package liquor store; Building 100 houses the main electrical substation for the facility; storage of small quantities of hazardous wastes was observed; no records of past releases are available; asbestos present in all buildings*.	·			
В	66 (total)	2	Buildings 121, 125, 129, 132, 135, 159, and 163; Docking Berths 55-58 and 61-64; Dry Docks 5, 6, and 7; formerly used for general berthing and dry docking of small vessels and submarines; buildings were used for offices, cafeteria, electrical substation, service craft barracks, latrine, and rubber shop annex; currently not in use; asbestos is present at these buildings*; transformers are being removed.	IR-24, IR-45, IR-46	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 140, 141, and 142 were used as a pump house, dock shipwrights shop, storage buildings, and air raid shelter; currently not used; leaking transformers containing PCBs may still remain.	IR-26p			
			Building 157 was used as the Non-Destructive Testing Laboratory; no electrical equipment present.	IR-26p			
			Building 156 was used to manufacture rubber parts for ships; currently used as a storage building for marine supplies; metals, PCBs, and other organics were detected in the area; transformers are present.	IR-20			

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Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
B (continued)	66	2	Building 130 was used as a machine shop; currently used as metal working shop; hazardous materials such as oils, solvents, and acids have been used at this site.	IR-24p	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Building 128 was used as a machine shop; currently used as a storage area; transformers are present at this site.	IR-24p, IR-51			
			Building 134 was used as a general warehouse and machine shop; currently used as a motorcycle repair shop; hazardous wastes were disposed of in the sewer at this location.	IR-25			
			Building 123 was used as a battery and plating shop; currently used for storage; asbestos is present at this location*; transformers remain on site; variety of hazardous wastes were disposed of in the sewer system.	IR-10			
		:	Building 122 was formerly the electrical substation "V" and a compressor plant; presently not in use; transformers are present at this location.				
			Building 146 was used as a photo development laboratory with an x-ray shielding vault; currently unused; investigation proposed for possible radiological concerns.	IR-23p			
			Building 144 was used as a latrine; former trailer park area was used for parking mobile homes; currently unused; Waste Oil Disposal Area; Sub-base Area; possible radiological concerns being addressed by ongoing investigation.	IR-7, IR-18			
			Buildings 103, 104, and 117 formerly used as barracks and national guard armory; asbestos is present*; a fuel oil UST was removed from this location.	UST S-136			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
B (continued)	66	2	Buildings 115 and 116 were used as an office and training building; currently leased to furniture, cabinet makers, and artists; asbestos is present*; transformers remain in place; a fuel oil UST was removed from this site.	IR-23p, UST S-135	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Building 120 was formerly the Enlisted Mens Club; currently used for recreational purposes.	*			
			Buildings 113 and 113A were used as a tug maintenance shop and salvage drivers shop; currently is vacant; transformers are present on site.	IR-42p			
			Building 109 was used as the base police station; currently used as a car leasing and travel service.	IR-42p			
			Buildings 111 and 112 were used as a lubrication oil pump house and diesel oil pump house; ASTs at former tank farm used to store fuel and lubricating oil; ASTs and Buildings 111 and 112 have been removed.	IR-06			
			Building 114 was used as an office building; currently vacant; possible sandblasting waste present; investigation proposed for possible radiological concerns.	PA-31			
			Building 124 was used as the acid mixing plant; building has been demolished; aboveground storage tanks used to store acids and electrolytes have been removed.	IR-25			
			Building 118; one UST removed from this location.	UST S-135			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
С	77 (total)	3	Buildings 154, 214, 215, 218, 219, 225, 226, 228, 229, 234, and 252; Docking Berths 1-9; structures were used for berthing of ships, offices, a firehouse, a latrine, an electrical substation, and a cafeteria; majority of buildings are unused; fire station is still in use; asbestos present in some buildings*; transformers are present at this location.	IR-58p, IR-28p, IR-49, IR-50	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 204, 205, 206, 207, and 208; Dry Docks 2 and 3; formerly used as the saltwater pump house, pump and compressor plant, an electrical substation, a latrine, a shop service, and dry docking of vessels; currently unused; transformers and two fuel oil USTs, which were closed in place, are associated with this site.	IR-27, IR-49, IR-50, USTs HPA-06 and S-214			
			Building 231 was used as a machine shop; currently vacant; asbestos present; transformers are present on site; two USTs have been closed in place, 3 USTs have been removed; hazardous wastes were disposed of in the sewer and landfill.	IR-28p, USTs HPA-10, HPA-11, HPA-12, HPA-16, and HPA-17			
			Buildings 211, 224, and 253 were used as an electronic shop, an optical ordinance shop, air raid shelter, instrument calibration, and storage; currently vacant; asbestos is present*; nine solvent and fuel oil USTs have been removed from the site; hazardous wastes were disposed of in the sewer; investigation proposed for possible radiological concerns.	IR-28p, USTs HPA-01, HPA-02, HPA-03, HPA-04, HPA-05, S-001, S-002, S-003, and S-004			
			Building 251 was used as the industrial relations and central tool room; currently vacant; asbestos is present*; two solvent USTs were removed from this location.	USTs S-219 and S-251			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
C (continued)	77	3	Buildings 217, 241, 258 and 280 were used as a sheet metal shop, forge shop, pipefitters shop, and an aluminum cleaning facility; Building 217 is currently being used by SUPSHIP, San Francisco; others are vacant; transformers are still present on site; various hazardous wastes were disposed of in the sewer and landfill.	IR-28p, IR-29p, IR-30, IR-58p	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Building 275 and 282 were used as the sheet metal annex and abrasive blast facility; Building 282 is vacant; Building 275 is leased by a skateboard manufacturer; transformers are present on site.	IR-29p			
			Building 281 was used as the electronics-weapons-precision facility; presently used by the Oakland Naval Supply center for storage; two solvent USTs were removed from this site.	IR-28p, USTs HPA-33 and HPA-34			
			Building 272 was used as part of the shop services group; currently leased to skateboard manufacturing, and rigging and carpentry companies; asbestos is present*; a waste oil UST was removed from this site; hazardous wastes were disposed of in the sewer.	UST HPA-07			
			Building 230 was part of the shop services group; presently leased to a skateboard manufacturing company.	IR-28p, IR-29p			
			Buildings 270 and 271 included a former paint shop; Building 270 is vacant; Building 271 is used by SUPSHIP, San Francisco; asbestos is present*; transformers are still present; a solvent UST was closed in place at this site; various wastes were disposed of in the sewer and at the landfill; investigation proposed for radiological concerns at this site.	IR-28p, IR-51, UST S-215			

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TABLE 2-1 (continued)

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
D	128 (total)	4	Building 203, located within Parcel C, was the main power plant at this location; no longer in use; hazardous materials were used at this location; wastes discharged to combined sewer system; asbestos and four USTs were removed; two USTs were closed in place; leaking PCB transformers have been noted.	IR-29p, USTs S-203, S-209, S-210, S-211, S- 212, and S-213	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 236 and 308 were formerly used as saltwater pumphouses; currently not in use; no NPDES permits were issued; an aboveground diesel storage tank is located next to Building 236; staining is evident beneath the tank and around the pump motors; one gasoline UST was closed in place at this site.	IR-49, UST HPA-308			
			Buildings 300, 301, and 372 were formerly used as the electrical substations, latrine, and the prefab decking shelter; currently inactive; presence of hazardous materials were noted in this area; hazardous wastes were probably disposed of in the onsite landfill; staining exists around Building 372.				
			Dry Dock 4 was used as a dry dock for military and commercial vessels; currently not in use; no history of hazardous materials use is available; possible radiological concerns are being addressed in ongoing investigation.	IR-57			
			Buildings 311 and 523; Docking Berths 10-14 and 21-29; used for general berthing of all vessels, also a saltwater pumphouse for saltwater fire fighting system, a latrine, and former ships office; buildings are currently vacant and unused; south pier is used for general docking purposes; three transformers remain on site.				

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
D (continued)	128	4	Buildings 368 and 369 were part of the shop services group; Building 369 is currently leased by Carpenter Rigging; Building 368 is vacant; transformers remain on site.	IR-22	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 274 and 306 were used as a decontamination training center and electrical substation; currently unused; Buildings 313 and 313A were former NRDL facilities; one transformer and other electrical devices are still present on site; investigation proposed to address possible radiological concerns.	IR-35			
			Buildings 370, 375, 376, 378, 379, 380, and 382 through 385; Docking Berths 15-20; structures were used for testing of Poseidon missile systems; several of the buildings were used as latrines; asbestos is present onsite*; currently leased to NIROP of Sunnyvale, California.	IR-32			
			Buildings 323, 324, 415, and 416 were used as the former shore activities electronics buildings, a CO ₂ refilling station and storage area; majority of this subparcel is currently vacant; Building 323 is leased to artists; a transformer is present on site*.				
			Buildings 364 and 365 were used for radiological research; Building 364 is used to conduct metals analyses; Building 365 is vacant; asbestos is present on site*; investigation proposed for possible radiological concerns.	IR-33p			
			Buildings 351 and 351A were used as former electronics shops; currently vacant; transformers are present onsite; hazardous wastes were disposed of in the sewer; investigation proposed for possible radiological concerns.	IR-34p			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
D (continued)	128	4	Building 366 was used as a boat and plastic shop; currently leased to a packaging company.	IR-34p	unknown	No Cost Public Benefit Conveyance	City of San Francisco
		·	Building 363 was as a woodworking shop; currently leased to a woodworking company.	,			
			Buildings 302, 302A, and 304 were formerly used as the transportation vehicle maintenance shop; also was leased to a painting and sandblasting company; currently unused; asbestos present onsite; fuel oil USTs were removed from site; hazardous wastes were disposed of in the sewer.	IR-33p, USTs S-304 and S-305			
			Building 402 was used as storehouse and office; currently leased to a storage company; transformers present onsite.				
			Buildings 418, 419, 420, 423, and 424 were used as a Q&RA Welding and Engineering Facility, oxygen converter building, oxygen cylinder changing building, compressor hat and paint storage, and area time house; Pickling and Plate Yard was used for painting and plating of large parts; buildings and yard currently unused.	IR-33, IR-09, IR-33p			
			Building 411 was used as the shipfitters, boilermaker, the welders and burners shop, also used for auto repair and painting and manufacturing industrial equipment; majority of the site is currently vacant; transformers remain onsite; USTs have been removed; hazardous wastes were disposed of in the sewer and landfill.	IR-33p			
			Buildings 408, 409, 410, and 438 were used as heat treating furnace shelter, welder motor generator huts, and metal spray shelter; currently vacant.	IR-44			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
D (continued)	128	4	Building 439 was a sheet metal shop; currently vacant; hazardous waste history is unknown.		unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 404, 404A, and 407 were formerly used as storage and offices; currently leased to a sheet metal fabricator company; welding machines which used PCBs have been removed from this site.	IR-36p			
			Buildings 401, 435, 436, and 437 were used as the public works shop, storage, furniture fabricator company, and printing and electrical salvage company; currently leased to cabinetmakers, metal working company, and other artists; asbestos is present*; two USTs have been removed; hazardous wastes have been disposed of in the sewer.	IR-36p, IR-37p, USTs S-435 (1), S-435 (2)			
			Building 400 was used for storage; currently used for repairs and alterations by Navy Planning and Engineering; one transformer remains onsite.	IR-36p			
			Building 405 was used for storage and was leased by a mushroom cultivation company; currently leased for storage purposes.	IR-36p			
			Buildings 406, 413, and 414 were used for storage, auto repair, and repainting; currently used for auto storage and investigation derived waste from remedial investigations; transformers remain onsite.	IR-36p			
			Building 710 was a public toilet and storage area for steel plates; currently vacant.	IR-36p			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
D (continued)	128	4	Buildings 371 and 704 were used for storage, transportation shop shelter, and auto body repair; currently a part of it is leased to a construction company and the remaining is vacant.	IR-36p	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Building 709 was used as a gas station; currently vacant; seven hydraulic oil USTs and fuel oil USTs have been removed.	IR-36, USTs S-711, S-712, S-713, S-714, S-715, HPA-14, and HPA-15			
			Building 500 was used as the CPO Barracks; currently vacant; a gasoline AST remains onsite.	IR-38p, AST S-505			
			Building 505 was used as a bowling alley, gymnasium, laundromat, and kitchen; currently vacant; asbestos present onsite*; one fuel oil UST was removed.	IR-39p, UST S-508			
			Building 606 was used as a Shore Intermediate Maintenance Activities facility.				
			Former athletic fields; currently unused.				
			Building 307 was used as an electronic assembly facility and storage area; currently leased to NIROP of Sunnyvale.	IR-55			
			Building 381 (part of Berth 21) was formerly part of the West Coast Shock Testing Facility; currently vacant.				
			Buildings 525 and 530 were used for storage and as an automotive hobby shop; Building 525 is leased to Hydro-Chemical Services, Inc.; Building 530 is vacant; transformers remain onsite.	IR-53			
	·		Building 526 was used for storage and as office space; currently leased to Hydro-Chemical Services, Inc.	IR-17		,	

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TABLE 2-1 (continued)

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
D (continued)	128	4	Small lot at corner of Mahan Street and "H" Street; historical use is unknown; currently vacant.	PA-16	unknown	No Cost Public Benefit Conveyance	City of San Francisco
Е	135 (total)	5	"R" and "J" Street were used as transportation routes; Berths 36 through 42 were used to dock ships; Pier 3 is currently considered unsafe for any use.	IR-45, PA-47	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 507, 508, 509, and 512 through 516 were used for radiological research, barracks, elementary school, and military services; all buildings were demolished; investigation proposed for possible radiological concerns.	IR-38p, IR-39p			-
			Buildings 506, 510, 518, 520, and 529 were used for radiological research, movie theaters, dental facility, and a PPO tape vault; buildings were demolished; investigation proposed for possible radiological concerns.	IR-14			
			Building 511A was used as a woodworking hobby shop; building demolished.	PA-54			
			Area formerly included an oil waste pond and an incineration tank; lot currently vacant.	IR-15			
			Building 521 was a power plant facility; currently vacant.	IR-11			
			Building 527, Pier 2, and Berths 30 through 35 were formerly a substation; berths were used to dock ships; currently unused.	PA-40			

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
E (continued)	135	5	Building 600 was a Bachelor Enlisted Men's Quarters; area includes bay fill area and oil reclamation ponds; building and area currently vacant; a transformer remains on site; a fuel oil AST was removed; possible radiological concerns being addressed in ongoing investigation.	AST S-505, IR-02, IR-03	possibly never	probably not applicable	probably will remain Federal
			Buildings 524 and 803 were formerly used as a commissary store house; buildings were demolished.	IR-13	unknown	No Cost Public Benefit Conveyance	City of San Francisco
			Buildings 707 and 708 were used as a NRDL animal colony and a NRDL Bio-Med facility; currently unused; investigation proposed for possible radiological concerns.	IR-39p			
			Area was used to store electrical transformers; currently vacant.	IR-05			
			Building 702 was used as a storage area and office space; currently vacant; transformers present onsite.	IR-12			
			Building 807 was used as a metal storage yard; currently vacant.	IR-04			
			Buildings 809, 810, and 811 were formerly used as a storage area and service station; currently vacant; a transformer is present on site; two fuel oil USTs were closed in place at this site; site currently used for storage of investigation-derived waste.	USTs S-801 and S-802			
			Formerly a train depot; railroad tracks next to Building 809 remain on site.	IR-56			
			Historical use of open field next to industrial landfill is unknown; currently vacant.	IR-21			

REUSE PARCEL DATA SUMMARY

Parcel	Acres	Priority	Description	Known Sites IR, PA, UST, AST	Projected Transfer Date	Transfer Mechanism	Recipient
E (continued)	135		Industrial landfill used as a disposal site for solid wastes such as construction and domestic waste, dredge spoil material, sandblast waste, chemical and radioactive waste; currently unused; radiological concerns being addressed by ongoing investigation.	IR-01	possibly never	probably not applicable	probably will remain Federal
		·	Building 517 was the (possible) Former NRDL Annex M Facility.		unknown	No Cost Public Benefit Conveyance	City of San Francisco

Sources:

- 1. Tetra Tech. 1993a.
- 2. PRC 1993a.
- 3. NEESA 1984.
- * An asbestos abatement program is scheduled to begin in the spring of 1994 (WESTDIV 1993).

CHAPTER 3

INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS

3.1 ENVIRONMENTAL PROGRAM STATUS

On January 22, 1992, the Navy, EPA Region 9, and the California EPA signed a federal facility agreement (FFA), that documented the Navy's intended action and schedule pertaining to environmental investigation and remediation at HPA pursuant to the following authorities:

- Section 120 of CERCLA
- Sections 6001, 3008(h), 3006, and 3004(u) and (v) of RCRA
- NEPA
- The Defense Environmental Restoration Program
- Applicable state laws

The FFA requires compliance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), CERCLA guidance and policy, RCRA guidance and policy, and applicable state laws.

The purpose of the FFA is to establish a procedural framework and schedule for ensuring that the environmental impacts associated with past and present activities at HPA are thoroughly investigated and appropriately remedied to protect public health, welfare, and the environment. The FFA is also designed to aid in the exchange of information and ensure the adequate assessment of potential injury to natural resources.

Under Section 6.2 of the FFA, the Navy agreed to undertake, seek adequate funding for, fully implement, and report on the following tasks:

Remedial investigations for those IR program sites and preliminary assessment/site
investigation sites (PA/SI) that had been previously designated. A remedial
investigation is the CERCLA-required study of a site where evidence has been found
of past release or disposal of hazardous chemicals that may present a significant risk

HPA BCP, (11:00 am) HPABCP.TXT (March 5, 1994) to human health or the environment. The RI involves the collection of soil and groundwater samples to be analyzed for the presence of hazardous chemicals, and the estimation of risk to human health or the environment based on likely exposure scenarios to chemicals actually found at the site. In a PA/SI, an area that has been identified as possibly contaminated with hazardous chemicals is investigated via interviews with facility personnel, reviews of facility documentation, and collection of limited samples to determine if there is a risk to human health or the environment. All sites undergoing a PA/SI are referred to as PA sites in this document. If the PA determines that there is little likelihood of risk, and if EPA and the state agrees, there is no further study of the site. If there is still felt to be a significant likelihood of risk, then the site is placed under the IR program, and its designation is changed from that of a PA site to an IR site. At the drafting of the original FFA, this encompassed IR site numbers IR-1 through 11, and PA sites 12 through 18, and all of the leaking underground storage tanks (USTs). Table 3-1 shows all current PA and IR sites.

- Feasibility studies for the IR sites, to be performed immediately after an RI has been completed and a site has been demonstrated to have contamination present that poses an unacceptable risk to human health or the environment. The FS has several purposes. One is to identify missing information necessary to fully characterize the nature and extent of site contamination. Such missing information is referred to as a "data gap." Another purpose is to compare remedial technologies that could be employed to reduce the risk at the site to below acceptable levels. The FS should supply enough information to allow remedial technologies to be compared based on their likely ability to protect the human health and the environment, their short-term and long-term effectiveness, whether the remedial technology will bring the site into compliance with environmental regulations, whether the technology will reduce the toxicity, mobility, or volume of the contamination, how easily the technology can be implemented, and how much the technology will cost.
- All response actions for the IR Program sites. This would include the preparation of a proposed plan that would document the remedy selected from the alternatives evaluated in the FS using data acquired during the RI. At this point an agreement on the remedy would be documented in a record of decision (ROD).
- Operation and maintenance of response actions at the IR sites. Response actions could range from simply source removals to treatment of contaminated soil and groundwater, and/or capping and monitoring.

Under Section 8.1 of the FFA, all parties agreed to the deadlines set forth in Appendix A of the agreement for RI and FS reports, proposed plans (which summarize the findings of the RI and recommendations of the FS), and the ROD, (which documents the remedial action selected for the site and the schedule for carrying it out) for each of the parcels at HPA. The schedules for completion of these documents are described in more detail in Chapter 5 of the document.

These agreed-upon deadlines have been revised twice since the original proposed dates at HPA. The first set of deadlines was proposed in the original drafting of the FFA in September of 1990. These schedules were based on the use of operating units, which were sites grouped by similar types of contaminants and risk elements. At that time, the first 10 IR sites were placed into 4 operating units (I through IV) with the remaining sites (12 through 18) along with any undiscovered sites and the underground storage tank sites, in the operating unit (V).

Following the initial remedial investigation, the use of operating units was found to be unworkable. The problems resulting from multiple sites and the like, with diverse contaminants in conjunction with the various utilities, storm lines, storm drains, and the like, serving as pathways and contaminant sources, could not be resolved with an operating unit approach. The Navy and the agencies decided to use two approaches to speed up the process: the division of the site into geographic parcels and the review of the previously designated operating units for possible interim actions through an alternative selection report. The schedules for these approaches were agreed upon in July 1993. The third version and current revision to the schedules in the FFA was agreed to in February 1994, as listed in Appendix A of the FFA. This approach is a refinement of the parcel-based approach, in which the facility is subdivided into five geographic parcels (A, B, C, D and E) for which parcel-wide remedial investigation and feasibility study reports will be prepared. These parcel-wide reports will incorporate all of the information obtained from work at the IR sites, the work at the various leaking underground storage tank sites, any of those sites requiring radiation investigation, and the results of facility investigations such as an ecological risk assessment or air sampling.

In addition to the commitment to carry out the above-mentioned efforts for the identified sites, the Navy agreed, under Section 6.1 of the FFA, to perform the tasks, obligations, and responsibilities under CERCLA; the NCP; RCRA; Executive Order 12580, and applicable state laws and regulations.

3.1.1 Restoration Sites

The IR activities at HPA were initiated in 1984, and since then, 58 sites have been identified. Table 3-1 lists these sites and identifies pertinent issues associated with each. Appendix B, Table B-1 provides a list of over 200 project reports that document environmental investigations and cleanups at

HPA as far back as 1972. All of the IR and PA sites are in HPA, with the exception of IR-52, which comprises the railroad right-of-way extending from the facility's western boundary to the southwest approximately 1,500 feet. To date, none of the IR sites needing remediation have been fully remediated and no decision documents or RODs (if necessary) for which a remedial action was selected have been prepared. The locations of all of the IR sites are shown in Figures 3-1, 3-2, and 3-3.

Sometimes while studying a site, contamination is found that clearly exceeds regulatory limits or could pose an immediate threat to human health or the environment. In such cases, an "early action" can be taken, if there exist known technologies that can clean up the contamination. Such technologies include excavation of soil or pumping to remove liquid contamination from the groundwater (which are referred to as removal actions).

Exploratory excavation, also referred to as investigation by excavation, is a process sometimes used when highly contaminated soil has been found that is believed to be of limited size, but the true depth and extent are not known. Rather than waiting until the exact size of the contaminated area can be measured, the contaminated soil is simply excavated until the remaining soil contain levels of contaminants below regulatory limits or will not pose a risk to human health or the environment.

In addition to the ongoing study and analysis, six removal actions and three exploratory excavations have been undertaken at HPA to reduce known contaminant sources. Two above-ground tank removals at sites IR-6 and IR-2 (the tank farm, and tank S-505) were completed in August 1993. One thousand cubic yards of soil containing PCBs was removed at IR-8 in 1986 as an early action. At IR-3, the waste oil reclamation ponds, a limited product recovery operation was conducted in 1992 to remove free product on the groundwater. At three sites (PA-19, -41, and -43) approximately 1,000 cubic yards of soil was excavated in 1993. A small scale test of a technology to treat sandblast grit, called fixation, was successfully completed. The status of these removal projects is summarized in Table 3-2.

3.1.2 Installation-Wide Source Discovery and Assessment Sites

In 1984, an Initial Assessment Study (IAS), which is partially equivalent to a PA, identified 12 areas requiring investigation as a result of possible disposal or spills of hazardous wastes. Six of these areas were identified as requiring further investigation, with three additional sites recommended for no further investigation, and the three remaining sites recommended for mitigating actions such as drum removal. The investigation followed the Navy's original environmental program of the Navy Assessment and Control of Installation Pollutants (NACIP) which consisted of three phases: an initial assessment, a second phase composed of a confirmation study that included a verification and characterization step, and a third phase consisting of the remedial action measures.

Following the IAS, a confirmation study verification step was proposed for those sites listed in the IAS. In this step, the original six sites recommended for study were investigated, along with four sites from the original list that were recommended for no investigation or mitigating actions, and one additional site. As a result of this verification step, all of these sites were proposed for the characterization step of a confirmation study. At this time the facility was placed on the NPL as a Superfund site with a proposed FFA.

In the FFA, all of those IAS sites previously proposed for characterization were reclassified within the RI/FS framework of CERCLA into OUs, based on similar types of contaminants and risk elements. All of the original IAS sites were renumbered, some were combined together, and several new sites from Triple A Machine Shops were added. From this point on, all sites are under the IR program and are referred to as IR or PA sites as discussed above. This new framework placed sites IR-1, -2, and -3 into OU I; IR-6, -8, -9, and -10 into OU II; IR-4 and -5 in OU III; and IR-7 into OU IV, with the remaining sites, as follows, placed in OU V; IR-11 through -18 (which comprised new sites from the Triple A Machine shop), USTs, and any other sites found.

After these earlier investigations, a site-wide inventory was conducted of those areas or buildings at HPA that had not been adequately assessed. This included buildings, utility lines and PCB-containing equipment, and any other designated potential sites. These sites were then included in a preliminary assessment that identified 40 PA sites (PA-19 through -58) for inclusion in proposed SI work. The

results of this phase of SI work indicated that 14 sites (1 in Parcel B, 3 in Parcel C, 5 in Parcel D, and 5 in Parcel E) pose no human health risk, with no further investigation proposed. The remaining 26 sites have been recommended for remedial investigation.

Concurrent with the ongoing remedial investigations, the Navy is evaluating those sites that were used for radiological research by the NRDL for radioactive contamination. Twenty sites will be screened for radiation, including 18 buildings used by NRDL that are not located on IR or PA sites, and 6 sites that are located in existing IR or PA sites (IR-01, IR-02, IR-07, IR-18, IR-57, and PA-31) as shown on Table 3-1 and Figures 3-1 and 3-2. IR-01 and IR-02 were used for disposal of radium-coated dials and were screened previously, and will be subject to more detailed screening.

Along with these investigations, a "Site Assessment" is underway of the current operations at the site; current tenants and any contamination within the last 10 years are being identified. Those sites that are found to have potential contamination will be incorporated in the facility RI/FS.

USTs at HPA were used to store fuel oil, solvents, gasoline, brine, waste oil, and water. At this time, the Navy has removed 36 USTs and closed-in-place 10 USTs. This completes the actions on all known USTs, except those at the FUDS. As a result of leakage and potential contamination, 25 of these UST sites (out of 28) are being investigated under the IR Program; the three remaining UST sites have been recommended for no further action.

To accelerate the RI/FS at HPA and to integrate the investigations, the site has been divided into geographic parcels, (A through E). All of the results from the previous investigations and current SI and RI work will be integrated in a parcel-wide RI and FS report for each specific parcel. These reports will also address those UST sites involved in RI-phase work, as well as those being screened for radiation. In addition, sites coming out of the "Site Assessment" will be incorporated along with the results from the ecological risk assessment, and facility air sampling.

3.2 COMPLIANCE PROGRAM STATUS

Compliance activities at HPA are conducted in conjunction with environmental restoration activities under the Navy's IR Program. Typically, compliance programs at federal facilities address underground storage tanks (UST), hazardous materials/waste management, solid waste management, asbestos, radon, polychlorinated biphenyls (PCB), air pollution, and waste water discharges. Compliance-related actions are being conducted at HPA by WESTDIV, primarily for USTs, asbestos, and PCBs. USTs have been removed or closed in place under RCRA as described in Table 3-4; asbestos will be removed or encapsulated as required by Occupational Safety and Health Administration (OSHA) regulations, and PCBs from transformers are being addressed by the IR program. The hazardous waste management plan is discussed in Section 3.2.2.1 below.

The status of the different compliance elements at HPA are described in the following sections and are presented in Table 3-3.

3.2.1 Storage Tanks

Storage tanks include both USTs and aboveground storage tanks (AST).

3.2.1.1 Underground Storage Tank Regulations

The EPA is authorized to regulate USTs under RCRA Subtitle I, and has as cooperative agreement with the State of California to implement EPA's UST regulations. The State of California has delegated UST enforcement to the California Regional Water Quality Control Boards, which have in turn delegated limited authority to enforce the UST program to local implementing agencies (usually county environmental health agencies). While EPA may enforce the federal regulations of RCRA Subtitle I, the regulatory program implemented under the State of California's Health and Safety Code is the primary regulatory and enforcement authority used at federal facilities.

3.2.1.2 UST Status

USTs at HPA were removed and closed in place in 1991 (Phase I), and 1993 (Phase II), as part of the IR program and are reported in SI documentation and/or SI presentations on parcels A through E. A total of 46 USTs have been removed or closed in place (36 removed and 10 closed in place) at HPA (PRC 1993b). These are believed to comprise all known USTs on HPA (Kyriacou 1993). There are four USTs remaining at one of the FUDS (Building 815) (McClelland 1994). These tanks will be addressed under parcel E RI work. Table 3-4, an inventory of USTs removed or closed in place at HPA, shows that all of the tanks contained petroleum products except for eight, which contained either waste oils or solvents that would be considered hazardous substances under EPA or state hazardous substance regulations.

3.2.1.3 Aboveground Storage Tank Authority

U.S. EPA has regulated ASTs under The Oil Pollution Prevention regulation (40 CFR Part 112), also known as Spill Prevention, Control and Countermeasure (SPCC) since 1973. The SPCC regulation was amended in 1976. As of October 1992, U.S. EPA again began developing proposals which would revise the SPCC regulation in two phases; with a general emphasis in strengthening the old provisions, and promoting good engineering practices. Principally, Phase I of the SPCC plan will require that certain provisions are now mandatory and no longer discretionary.

The Oil Pollution Act (OPA) of 1990 places removal cost and damages liability on onshore AST facility owners and operators, if oil or other hazardous substances are discharged into navigable waters and adjoining shorelines. The United States Coast Guard holds primary enforcement authority of OPA. In January 1993, U.S. EPA revised OPA regulations, which now require AST facility owners and operators to submit response plans to U.S. EPA. In general the new rule contains language that mandates tank owners have a means to contain an AST facility leak or release.

Parts 262, 264 and 265 of the Resource Conservation and Recovery Act (RCRA), Subtitle C, apply to ASTs as generators of hazardous waste and treatment storage facilities.

The Superfund Amendments and Reauthorization Act (SARA) Title II, requires non-petroleum tank owners and operators to report spills of hazardous wastes, regulates responsible party liability and cost recovery for cleanups, and has established cleanup requirements

The Occupational Safety and Health Administration (OSHA) has developed national standards (29 CFR 1910, 106) for handling, storage and use of flammable and combustible liquids. OSHA recently released 29 CFR Section 1910.146, "Permit Required Confined Spaces for General Industry", also potentially applicable to AST facility owners and operators.

While the National Pollutant Discharge Elimination System does not regulate ASTs specifically, it does regulate discharge of pollutants into surface waters. For AST facilities, this may mean runoff from diked areas could not be directed immediately into a storm sewer if quality standards have not been met. In this case, AST facilities may be required to use separators or other forms of water treatment prior to discharging runoff into storm sewers.

On March 16, 1993 a bill was introduced in the House of Representatives (H.R. 1360) and in the Senate (S.588) which would require leak detection, corrosion protection, registration fees, structural integrity and secondary containment for ASTs. The bill, however, exempts ASTs with less than a 12,000 gallon capacity.

In the state of California, the California Health and Safety Code, Chapter 6.67, Division 20, at Section 25270 regulates ASTs. In April 1991, Senate Bill 1050 was added to Section 25270 of the Code. The Public Resource Code, Section 3106 also regulates ASTs.

3.2.1.4 AST Status

ASTs removed at HPA include Tank S-505 (HLA 1993a) and 10 ASTs from Tank Farm IR-6 (HLA 1993b), for a total of 11 tanks. These tanks were removed as part of the Navy's IR program. An old photo of the tank farm shows saddles for 8 more tanks that had apparently been removed earlier, but no documentation has been found to confirm this (McAvoy 1994). Table 3-5 is an inventory of the remaining ASTs and those that have been removed at HPA. All of the tanks

removed contained petroleum products, except for two that contained solvents that would be considered a hazardous substance.

3.2.2 Hazardous Materials/Waste Management

3.2.2.1 Authority

Handling and management of hazardous wastes at HPA are described in the Hazardous Waste Management Plan (HWMP) for NAVSTA Treasure Island (WESTDIV 1992). A number of federal and state regulations apply to hazardous waste management. Among these, the most applicable are RCRA Subtitle C (40 CFR Parts 260-270), Hazardous Materials Transportation Act (49 CFR Parts 170-179), and CCR, Titles 22 and 23.

3.2.2.2 Hazardous Materials/Hazardous Waste Status

Naval activities at HPA currently do not generate hazardous wastes, except for wastes that are generated from remediation activities conducted under the IR Program. Hazardous waste accumulation and storage areas are located within Buildings 810 and 814 at HPA. These areas are used to store soil cuttings from PCB cleanup, UST activities, heavy metals-contaminated areas, and waste oils and waste solvents. Hazardous wastes generated by remedial actions are stored in drums within building 810 and 814 at HPA. Several covered steel bins are located next to Buildings 810 and contain drill cuttings from past IR program activities. Once these cuttings are disposed of, no more waste will be stored outside the building. Wastes contaminated with radioactive substances are also stored in drums inside a separate containment structure within Building 814. The Navy's Radiation Affairs Support Office (RASO) is in charge of disposal of all radioactive materials at HPA, and is in the process of finding a contractor to remove the contaminated drums. No schedule has been set for the drums removal.

The Navy rents office and commercial/industrial buildings to private tenants, who are responsible for proper handling, storage, and disposal of any hazardous wastes they may generate. The Navy is not aware of any permitted hazardous waste activities by any HPA tenants. The Navy is currently

conducting a site assessment to determine if any of the tenants may have released any hazardous wastes at HPA. The findings of this survey have been documented in a draft report titled *Draft Site Assessment Report*, *Potentially Contaminated Sites*, *Parcels B*, *C*, *D*, and *E*, *Naval Station Treasure Island*, *Hunters Point Annex*. This report is currently undergoing internal review and is scheduled to be issued as a final document on March 11, 1994.

3.2.3 Solid Waste Management

Solid wastes are discarded materials, excluding those that are considered to be hazardous waste under RCRA Subtitle C, or hazardous substances as defined by CERCLA and the State of California Carpenter-Presley-Tanner Hazardous Substance Account Act.

3.2.3.1 Solid Waste Regulation

Solid waste management regulations applicable to HPA include federal, state, local, and Navy requirements.

RCRA establishes public safety and health standards for the disposal of solid waste. RCRA and the Military Construction Codification Act (MCCA) of 1982 provide for various means of recovering value from solid waste. Wastes may be recycled, reclaimed, used as a fuel supplement, or sold for "profit."

California Assembly Bill 939 requires counties in the State of California to divert 25 percent of their solid waste from its landfills by 1995 and 50 percent by the year 2000. California Senate Bill 1223 establishes comprehensive state programs designed to increase recycling and encourage the development of commercial markets for recyclable materials.

In general, California places the burden of action and responsibility on the county to meet the state requirements.

Instructions issued by the Chief of Naval Operations, OPNAVINST Instruction 5090.1A Chapter 1 0, require all Navy installations to comply with federal, state, and local solid waste management requirements. Each installation is required to develop a qualified recycling program to reclaim scrap metal, high-grade paper, corrugated containers, aluminum cans, and to compost yard waste where feasible.

3.2.3.2 Solid Waste Status

Solid wastes generated by DoD tenants at HPA are collected by a private contractor. Private tenants manage the collection of their own wastes. No solid wastes are disposed of on HPA property.

3.2.4 Polychlorinated Biphenyls

PCBs are a specialized class of manufactured chemicals able to withstand high temperatures and insulate electrical currents. PCBs were traditionally used in electrical transformers, capacitors, lighting ballasts, and other similar equipment. Unfortunately, PCBs are suspected carcinogens and were found to bioaccumulate in animal and human tissues. PCBs also produce highly toxic dioxin compounds in fires. The following sections present the primary regulations for PCBs and a status of PCB-filled equipment present at HPA.

3.2.4.1 PCB Regulation

PCBs are governed under the Toxic Substances Control Act (TSCA) and regulations are promulgated in 40 CFR Part 761. TSCA classifications are shown in Table 3-6:

40 CFR 761 requires that PCBs at concentrations of 50 parts per million (ppm) or greater be disposed of in an incinerator or alternative method of equivalent performance.

PCBs are a hazardous substance under CERCLA. CERCLA sites contaminated with PCBs may be cleaned up according to standards defined by TSCA.

The State regulations for PCBs are found in CCR Title 22, Division 4, Chapter 30. California regulates PCB waste liquid at 5 ppm or greater. Any handling or disposal of transformer fluids at levels higher than 5 ppm must be in accordance with current State laws and regulations.

3.2.4.2 PCB Status

All transformers at HPA have been surveyed, and all contaminated transformers and equipment have been identified (NAVSTA Treasure Island 1993). NAVSTA Treasure Island is in the process of removing all operating and unused PCB and PCB-contaminated equipment (anything with greater than 50 ppm PCBs) from HPA. WESTDIV has budgeted BRAC funding to complete this work by January 31, 1995, according to funding projections provided by WESTDIV (1993). Currently, NAVSTA Treasure Island is considering removal of the additional equipment that falls under the State of California criteria of 5 ppm PCBs or greater; plans to remove any such equipment, however, are not reflected in this BCP.

3.2.5 Asbestos

Asbestos is a group of naturally occurring fibers that are heat - and chemical-resistant. Asbestos fibers are flexible and, when handled, break down into fine fibers that can become airborne. These fine fibers may cause lung cancer when inhaled. Asbestos had been used in fire-resistant building products, insulation, brake pads, thermal insulation for steam lines, and other uses.

3.2.5.1 Asbestos Regulation

Federal regulations cover the manner in which asbestos can be used or handled. This discussion focuses on regulations dealing with worker protection and the disposal of asbestos waste materials. Several State and federal agencies have regulatory jurisdiction over asbestos: the Department of Transportation (DOT), the EPA, the Occupational Safety and Health Administration (OSHA), the California Occupational Safety and Health Administration, and the State of California Air Board.

DOT regulations specified in the Hazardous Materials Transportation Act consider asbestos a hazardous material, categorize asbestos for transportation requirements, establish a reportable quantity of 1 pound, specify asbestos shipping container requirements, and establish standards intended to limit exposure of transportation personnel (Carson and Cox 1992).

EPA regulates asbestos via the National Emission Standards for Hazardous Air Pollutants (NESHAPS), under the Clean Air Act. These regulations address asbestos industries, application of asbestos-containing material (ACM) in new buildings, and handling and disposing of ACM during demolition and removal operations. Specific regulations for ACM in buildings are listed below (U.S. EPA 1985):

- Before building demolition of more than 260 linear feet of asbestos pipe insulation in a building or the removal of more than 160 square feet of asbestos surfacing material during renovation, advance notice must be filed with the EPA regional office and/or state.
- ACM can be removed only with wet removal techniques. Dry removal is allowed only under special conditions and with written EPA approval.
- No visible emissions of dust are allowed during removal, transportation, and disposal of ACM.

EPA also regulates asbestos in schools under the Friable Asbestos-Containing Materials in Schools; Identification and Notification Rule, promulgated under TSCA (U.S. EPA 1985).

OSHA regulations for asbestos specify airborne exposure standards for asbestos workers, engineering and administrative controls, workplace practices, and medical surveillance and worker protection requirements.

3.2.5.2 Asbestos Status

An asbestos survey for parcel A and drydock 4 was completed by Tetra Tech under contract to WESTDIV. A second survey for Parcels B through E is underway and will be completed in FY94. The second survey is being conducted by Mare Island Naval Shipyard. The combined surveys will

provide a complete inventory of friable and nonfriable asbestos and conditions at HPA, and will include recommendations for abatement of damaged, friable and accessible asbestos. Structures in Parcel A are being categorized into one of three categories to determine an overall abatement strategy. The categories of structures include:

- Currently occupied, and requires abatement strategy
- Not currently occupied, but can be used as originally intended
- To be demolished

A similar approach is being implemented to categorize Parcels B through E, which is scheduled for completion by July 31, 1994 (WESTDIV 1993). Asbestos abatement is expected to be completed by January 1, 1997.

3.2.6 Radon

Radon is a decay product of uranium that is naturally occurring in some geologic formations. Building products, especially cinder blocks made from materials high in uranium, may release radon gas. Radon may pose a hazard in airtight buildings where the gas can accumulate (Carson and Cox 1992). The following sections describe the regulations that address radon and the status of radon at HPA.

3.2.6.1 Radon Regulation

Radon is regulated under CERCLA/SARA. Title IV of SARA contains the Radon Gas and Indoor Air Quality Research Act of 1986. Section 403 of SARA outlines a research program that emphasizes the gathering of data for radon gas, reporting requirements, and funding details (Carson and Cox 1992).

Under Federal Law 100-551, Section 309, the EPA requires all federal departments or agencies to assess and mitigate radon contamination in any buildings they own. Navy policy OPNAVINST

5090.1A, requires that all Navy buildings and housing units occupied for more than 4 hours per day shall be tested for the presence of radon gas. Both the Navy and the EPA require mitigation for radon levels exceeding 4 picocuries per liter (pCi/l).

3.2.6.2 Radon Status

Currently no radon abatement has been conducted at HPA, and no buildings or housing units have been surveyed. Guidance from WESTDIV on a radon program for HPA is pending, and BRAC funding has been budgeted to implement radon abatement in 1996.

3.2.7 RCRA Facilities

No RCRA facility investigations or RCRA facility assessments have been conducted at HPA. However, an investigation of potentially contaminated sites within Parcels B, C, D, and E is being conducted to determine whether additional sites potentially contaminated within the past 10 years should be included in the present installation restoration program. This investigation will result in a report called the Site Assessment Report, Potentially Contaminated Sites, Parcels B, C, D, and E, Naval Station Treasure Island, Hunters Point Annex. A draft version of this report was completed in February of 1994; the final report is scheduled to be issued on March 11, 1994.

3.2.8 NPDES Permits

One National Pollutant Discharge Elimination System (NPDES) permit is held by Mare Island Naval Shipyard for Drydock 4 and five other drydocks at HPA. Although unused for several years, Drydock 4 is considered to be an active unit, whereas the others are inactive. Naval Station Treasure Island holds an interim permit for stormwater outfalls at HPA. Compliance reports are submitted to the San Francisco Bay Regional Water Quality Control Board, in accordance with the conditions specified in both permits. However, there may be other discharges by tenants that require permits at HPA; the facility should be audited to identify these tenants.

Storm water discharge regulations under NPDES also required that a survey be conducted for any non-storm water discharges into the storm water discharge system, and that such discharges be eliminated by 1 October 1992. According to WESTDIV (Olsen 1994), the *Draft Naval Station Treasure Island, Hunters Point Annex, Storm Water Pollution Prevention Plan* by PRC and James M. Montgomery Consulting Engineers, 5 January 1993, states that illicit discharges do exist at HPA.

3.2.9 Oil/Water Separators and Sumps

There are no oil/water separators at HPA. Sumps are investigated and remediated under the IR program.

3.2.10 Lead-Based Paint

Draft DoD policy regarding lead based paint states that the Navy must comply with all applicable federal State and local laws and regulations regarding lead based paint hazards. However, there are no local or State lead base paint standards, and the federal requirements for the transfer of federal property for private residential use under the Residential Lead-Based Paint Hazard Reduction Act of 1992, and implemented by the regulations in 40 U.S.C. § 4822, only address family housing (Corpos 1994a). Because there is no more family housing at HPA, the Navy has not implemented a program for lead based paint surveying or abatement (Corpos 1994b).

However, if work is performed on structures coated with lead-based paints, regulations for air exposure to workers under the OSHA would apply. Also, lead-contaminated residues generated during paint removal would be regulated under RCRA, if found to be a characteristic hazardous waste, or it could be regulated under the California Hazardous Waste Management Regulations if it failed the WET test, or exceeded the total toxic limit criteria for lead (1,000 ppm lead) as described in the California Code of Regulations, Title 22, Chapter 11, Section 66261.24(a).

3.2.11 AIR POLLUTION

Since there are no current activities, HPA has no air emissions that require permitting.

HPA BCP, (11:00 am) HPABCP.TXT (March 5, 1994)

3.3 NATURAL RESOURCES

The DoD is designated as a trustee for natural resources on, over, or under federal land the department manages, as stated in the NCP Subpart G, Trustees for Natural Resources (40 CFR §300.600), in conjunction with other federal and state natural resource trustees. As trustees, they are authorized to act pursuant to § 107(f) of CERCLA or § 311(f)(5) of the Clean Water Act when there is injury to, destruction of, loss of, or threat to natural resources as a result of a release of a hazardous substance or a discharge of oil. In addition to the NCP, other laws such as the Endangered Species Act (16 USC 1531-1543; 40 CFR 17), Migratory Bird Conservation Act (16 USC 2912.13), Marine Mammal Protection Act (16 USC 1361.7), and various California Department of Fish and Game codes also protect natural resources. The BCP identifies natural resources at the subject facility. The current status of natural resources, data sources, and the compliance strategy for HPA are summarized in Table 3-7 and discussed in the following sections. In addition, the role of natural resource damage assessment (NRDA) and the NRDA process is explained below.

3.3.1 Natural Resource Damage Assessment

Under CERCLA, natural resources are defined as "land, fish, biota, air, water, groundwater, drinking water supplies, and other such resources" managed or controlled by federal agencies, state governments, or Indian tribes. Natural resource damage claims apply to the "residual" damages left after a cleanup is complete; the claims may include the value of lost use and the cost of conducting the assessment. The following sections discuss the trusteeship, liability, and damage determination for NRDAs.

3.3.1.1 Trusteeship

Federal trustees designated under the NCP include the secretaries of the U.S. Departments of Interior, Commerce, Defense, Energy, and Agriculture. State governors may appoint state agencies as trustees for resources under their jurisdiction. It is not necessary for a government to "own" injured resources to act as a trustee, but it must demonstrate that a resource is subject to "a substantial degree of government regulation, management, or other form of control."

HPA BCP, (11:00 am) HPABCP.TXT (March 5, 1994) The Secretary of Commerce has delegated trustee authority to the National Oceanic and Atmospheric Administration (NOAA), which asserts trusteeship for natural resources found in or under navigable waters and in upland areas serving as habitat for marine mammals or other protected species. Other federal and state agencies assert trusteeship for resources that they manage, such as migratory birds, anadromous fish, threatened and endangered species, certain marine mammals, and certain federally managed water resources. The natural resource damage regulations do not provide clear rules regarding overlapping jurisdiction among trustees; however, the regulations clearly bar double recovery where there are multiple trustees.

3.3.1.2 Liability

Under CERCLA, parties who are responsible for the release of hazardous substances are liable for "damages for, injury to, destruction of, or loss of natural resources, including other reasonable costs of assessing such injury." However, recovery of damages is prohibited for natural resource losses that were identified in an environmental impact statement and subsequently authorized by a license or permit.

Natural resource damage claims are meant to be restitutional rather than punitive. Damages must be evaluated in the light of remedial response actions; damages are applicable only to the residual injuries that remain after the response action. Damages recovered may be used only to restore, replace, or acquire the equivalent of the injured natural resource.

3.3.1.3 Damage Determination

The trustees are responsible for the natural resource damage assessment, although potentially responsible parties (PRPs) can be permitted to conduct the assessment with trustee oversight. The assessment process begins with a screening to assess whether the release justifies an assessment. Before proceeding to a full assessment, several criteria must be met. If an assessment is deemed necessary, a plan is drafted. The assessment plan identifies all scientific and economic methodologies that are expected to be used, demonstrates that the methodologies are cost effective, and indicates that the assessment will be coordinated with any site remediation.

The natural resource damage assessment must (1) demonstrate that a resource has been injured, (2) quantify the injury, and (3) translate that injury into compensable damages. Two assessment approaches are available. Approach A uses a simplified model developed specifically for coastal and marine environments. Approach B uses environmental data and various economic value theories to arrive at damages in other environments. Injury is quantified by comparison with a baseline level of service for the resource or the conditions that would have existed had the release not occurred. When no prerelease data are available, the baseline is often determined using a control area.

During the preassessment and assessment phases, trustees are expected to make maximum use of site data compiled from the RI/FS or similar investigations. Available data are used to review the characteristics, quantities, and duration of the release, the site history, relevant operations at or near the site, and PRPs. Resources potentially at risk are identified by the conditions of the release, the potential exposure pathways and routes, toxicological properties of the discharged substance, and physical conditions at the site. Most of this information is available in site investigation documents.

Regulatory Background

Mitigation of injury to natural resources resulting from a release of hazardous materials is regulated by CERCLA § 107(f) and the Clean Water Act § 311(f)(5), and clarified further in the NCP (40 CFR 300.615(c)). In addition, the NCP (40 CFR 300.615(c)) authorizes the Navy, as federal trustee, to conduct a preliminary survey of the area affected by the release, cooperate in the planning of further action, and develop a plan to restore, rehabilitate, or replace natural resources injured by the release.

CERCLA § 104(b)(2) requires notification of federal and state natural resource trustees that a release has occurred so that the co-trustees can coordinate assessment, investigation, and planning. Trustees are to be notified by letter of other significant steps, such as discovery of a contaminated site, RI/FS negotiations, and submittal of documents such as work plans, sampling plans, draft RODs, final RODs, and design documents. Figure 3-4 illustrates key junctures in the RI/FS process where natural resource trustees should be notified. Specific responsibilities of trustees are outlined in Table 3-8.

Ecological Assessments in the RI/FS

One of the primary goals of coordinating with all natural resource trustees throughout the RI/FS process is to ensure that the site-wide ROD addresses both remediation and restoration of natural resources. If this goal is reached in cooperation with the trustees, the assessment of natural resource damages is unlikely.

Figure 3-4 outlines the steps in the RI/FS process leading to a ROD that includes restoration of natural resources. Individual sites are moved out of the RI/FS process only after they are found to be uncontaminated according to criteria agreed to by the co-trustees and other regulatory representatives at the end of Phase I or Phase II of the RI, or during the FS.

Under the RI/FS program, the ecological assessment is the preliminary step in determining whether protected natural resources have been affected by a release of hazardous materials.

Federal and state natural resource trustees should play an important part during the FS. It is at this stage that cleanup goals are agreed to and alternative remediation and restoration plans are discussed. Agreement among all co-trustees at this stage increases the likelihood that the RD/RA will truly address restoration of injured natural resources. If the resulting ROD is considered protective of the natural resources under the jurisdiction of the trustees, then assessment of natural resource damages, described in 43 CFR 11, is not likely.

Disposal of Property

Once a parcel has been cleared for transfer (FOST/FOSL), NEPA regulations must be addressed. Protection of newly restored natural resources will continue to be of concern at this stage. Federal and state natural resource trustees should be kept informed throughout the process to expedite the ultimate disposal of Navy property. Ultimate disposal of property at HPA may require that the new lessee or owner agree to implement the Navy's environmental management plans. Because the HPA ecological assessment is still in its initial stages, the primary issues of protection of natural resources have not been determined.

3.3.2 Threatened and Endangered Species

Threatened and endangered species listed by both the federal government and the state of California, have been observed at HPA (PRC 1993c,d; ESA 1987). Table 3-9 includes species already listed as threatened or endangered, as well as candidates for listing that have been observed or may be present at HPA.

3.3.3 Rare or Sensitive Habitat

Wetlands (see Section 3.3.4), mudflats, and habitat for burrowing owls are present at HPA (USGS 1980, PRC 1993c). The habitat map (Figure 3-5) shows the precise locations of these habitats.

The mudflats at HPA are located in South basin and India basin. They occupy the intertidal zone exposed at low tide. The soft bay mud substrate provides habitat for many invertebrates including oligochaetes, polychaetes, crustaceans, decapods, isopods, gastropods, and bivalves. These invertebrates are preyed upon by shorebird species such as western sandpiper (Calidris mauri), willet (Catoptrophorus semipalmatus), sanderling (Calidris alba) and dunlin (Calidris alpina) which forage extensively at low tide. Shorebirds eat a variety of invertebrate prey usually obtained from the top few centimeters of the substrate, or, less often, from the column of water overlying the substrate. Stomach content research has shown that the gem clam (Gemma gemma), the polychaete worm (Neanthes succina), and the mud snail (Ilyanassa obsoleta) are common prey among many shorebirds (USFWS 1992). At high tides, these invertebrates are preyed upon by several fish such as silver surfperch (Hyperprosopon ellipticum), cheekspot goby (Ilypnus gilberti), and white croaker (Genyonemus lineatas).

3.3.4 Wetlands, Surface Water, and Flood Plains

The following sections address wetlands, surface water, and flood plains present at HPA.

3.3.4.1 Wetlands

Several small areas of wetlands have been delineated at HPA (WESTDIV 1991; PRC 1993e). These areas provide the greatest ecological diversity of any habitat at the facility. According to Jake Sigg of the California Native Plant Society, these wetlands represent the most important salt marsh habitats in the city and county of San Francisco (Sigg 1993). Wetlands are present within the zone of tidal influence and contain plant species tolerant of estuary environments, such as pickleweed (Salicornia virginica), salt grass (Distichlis spicata), and sedge (Carex sp.) (HLA 1991; WESTDIV 1991; PRC 1993e).

The wetland vegetation and mudflats provide habitat for migratory and resident shorebirds, including the black turnstone (Arenaria melanocephala), killdeer (Charadrius vociferous), willet (Cataptrophorus semipalmatus), sanderling (Calidris alba), and western sandpiper (Calidris mauri). Both areas also provide foraging habitat during high tides for the osprey (Pandion haliaetus), great blue heron (Ardea herodias), great egret (Casmerodius albus), and belted kingfisher (Ceryle alcyon) (HLA 1991; PRC 1993g), all of which have been observed using the wetlands, mudflats, and adjacent ruderal habitats. The abundance of shorebirds also serves as prey for the peregrine falcon (Falco peregrinus), which also has been observed foraging in the adjacent disturbed habitat of HPA Parcel E (PRC 1993c).

3.3.4.2 Surface Waters

The facility borders San Francisco Bay and two freshwater streams, Yosemite and Islais Creeks, that flow into the Bay adjacent to the facility. (USGS 1980). The aquatic habitat surrounding the facility, in particular the shoreline areas of HPA, is used by numerous bird species including the double-crested cormorant (*Phalacrocorax auritus*), California brown pelican (*Pelecanus occidentalis californicus*), and several dabbling and diving duck species.

The waters near the wetland habitat and Pier 2 are commonly occupied by large numbers of wintering ducks including bufflehead (*Bucephala albeola*), lesser scaup (*Aythya affinis*), barrow's goldeneye (*Bucephala islandica*), and surf scoter (*Melanitta perspicillata*). From November through February,

densities of up to 1,000 waterfowl per square kilometer are observed in central bay near the South basin area (Accurso 1992). These ducks feed on benthic invertebrates, such as mollusks and crustaceans.

Fish, including anchovies (Engraulis mordax), Pacific herring (Clupea harengus palasii), and goby species, serve as prey for the California brown pelican (Pelecanus occidentalis), osprey (Pandion haliaetus), and carnivorous fish such as leopard shark (Triakis semifasciata), smelt (Atherinopsis sp.), and California halibut (Paralichthys californicus). Other fish inhabiting the waters of HPA include oceanic and benthic species like lingcod (Ophiodon elongatus) and starry flounder (Platichthys stellatus). Marine mammals observed using the bay waters around HPA include the California sea lion (Zalophus californians) and harbor seal (Phoca vitulina).

3.3.4.3 Flood Plains

According to the baseline environmental report (WESTDIV 1993) HPA does not lie within the 100-year flood plain, as defined by the US Geological Survey.

3.3.5 Biota

The following sections summarize available information concerning migratory birds, fisheries, marine mammals, special animals and plants, and plants or animals of public interest at HPA.

3.3.5.1 Migratory Birds

The San Francisco Estuary is a seasonal home for many birds migrating along the Pacific Flyway. The common murre (*Uria aalge*) is a migratory seabird that has been observed at HPA (USFWS 1992). Other groups of migratory birds observed at HPA include several species of waterfowl, such as bufflehead (*Bucephala allieola*), Barrow's goldeneye, (*Bucephala islandica*), lesser scaup (*Aythya affinis*), greater scaup (*Aythya marila*), surf scoter (*Melanitta perspicillata*), and American coot (*Fulica americana*), as well as passerine birds, such as the western meadowlark (*Sturnella neglecta*), Bushtit (*Psaltriparus minimus*), brown creeper (*Certhia americana*), and ruby-crowned kinglet

(Regulus calendula) (PRC 1993c, HLA 1991, ESA 1987). All these species are protected by the Migratory Bird Treaty Act.

3.3.5.2 Fisheries

Fisheries have been documented at HPA (Hieb 1992; ESA 1987). Common harvested species include Pacific herring (Clupea harengus palasii), northern anchovy (Engraulis mordax), topsmelt (Atherinopsis affinis), and California halibut (Paralichthys californicus).

3.3.5.3 Marine Mammals

Marine mammals have been observed at HPA (PRC 1993f). The California sea lion (Zalophus californianus) and harbor seal (Phoca vitulina) are routinely observed in San Francisco Bay waters at HPA. These pinnepeds have also been seen feeding on schools of Pacific herring during winter in the water immediately off Parcel D at HPA.

3.3.5.4 California Special Animals

"California special animals" is a broad term used by the Natural Heritage Division of the California Department of Fish and Game to refer to invertebrate and vertebrate taxa of concern, regardless of their legal status. The list includes populations that are (1) rare, restricted, or declining; (2) peripheral to the main population but threatened within California; or (3) closely associated with habitats that are declining in California (e.g., wetland, riparian, or old growth forest habitats). The list includes species listed as endangered or proposed for listing, as well as candidate species, California Department of Fish and Game Species of Special Concern, and species designated as "sensitive" by federal land managers.

Several California special animals have been observed at HPA (PRC 1993c; HLA 1991b; ESA 1987). The list in Table 3-10 details species of special concern that have been observed at HPA and those that are expected to at HPA are species of special concern at HPA.

3.3.5.5 California Special Plants

California special plants includes species that (1) are listed as endangered or threatened by the state or federal government; (2) are candidates for listing; (3) meet the criteria for listing as described in § 15380 of CEQA guidelines; (4) are listed in the California Native Plant Society as rare or endangered; (5) are rare, restricted, or declining; (6) are peripheral to the main population but threatened within California; (7) are closely associated with habitats that are declining in California (e.g. wetland, riparian, or old growth forest habitats); or (8) have been designated as "sensitive" by federal land managers. Several California Special Plants (CNPS 1989) are present at HPA, as listed below.

<u>Species</u>	Common Name	<u>Status</u>
Calystegia occidentalis	Morning Glory	CSP
Eriogonum nudum	Buck Wheat	CSP
Microseris douglasii var. platycarpha	Sunflower	S2S3

CSP California Department of Fish and Game Special Plant

3.3.5.6 Plants or Animals of Public Interest

Several birds observed at or near HPA (PRC 1993d) are on the Audubon Blue List and are of importance to Audubon societies in the San Francisco Bay area. Of these species, which are shown below, only the red-shouldered hawk has been observed at HPA.

S2S3 Species numbers are between State Status 2, 6-20 element occurrences or 100-3000 individuals or 2000 - 10,000 acres, and State Status 3, 21-100 element occurrences or 300-10,000 individuals or 10,000 - 50,000 acres.

Species

Common Name

Podiceps auritus

Horned grebe

Buteo lineatus

Red-shouldered hawk

Circus cyaneus

Northern harrier

Asio flammeus

Short-eared owl

Plants of public interest have not been identified.

3.3.6 Cultural Resources

In 1989, a survey of the historic resources at HPA identified the area surrounding and adjacent to Dry Dock No. 2 and Dry Dock No. 3 in Parcels B and C as the Hunters Point Commercial Dry Docks Historical District. Significant Structures within this district include Dry Dock No. 2 and Dry Dock No. 3, the one-story brick pump houses (Buildings 140 and 205), a one-story brick gatehouse (Building 204), a one-story brick tool and paint building (Building 207), and the seawalls and wharves connected with the dry docks. These buildings have been determined to meet the requirements for eligibility to the National Register of Historic Places.

In addition, at HPA a significant achievement during the World War II period was the construction of Dry Dock No. 4 and its associated support buildings. Of particular note, this dry dock was completed in less than 9 months. During this time, approximately 5 million cubic yards of soil was excavated from the area and deposited as fill north and south of Dry Docks No. 2 and No. 3. This soil was used to construct a cofferdam behind which Dry Dock No. 4 was constructed. Of particular note to the Navy is that Dry Dock No. 4 is still owned and operated by Mare Island Naval Shipyard.

The survey of historical resources also identified the 450-ton bridge crane and the ordnance and optical building (Building 253) as the only other buildings and structures at HPA with the potential to qualify for the National Register. Subsequently, the Navy reevaluated the 450 ton bridge crane and determined, in consultation with the State Historical Preservation Office, that the removal and destruction of the crane all but destroyed the properties integrity. The ordnance and optical building may have been deemed significant, but years of neglect have left it all but a ruin. It will have to be

reevaluated in consultation with the State Historical Preservation Office because it was an award winning design on an important 20th century architect.

3.3.7 Archaeological Resources

At the turn of the century, two shell mounds were identified and mapped at HPA. The shell mounds were destroyed during World War II to fill in the areas surrounding the three dry docks. The issue regarding whether the fill contained any of these prehistoric relics was addressed in a study by the Navy in 1987. It was determined, and concurred in the response submitted by the State Historic Preservation Officer, that no prehistoric archaeological remains are located at HPA.

3.4 STATUS OF COMMUNITY INVOLVEMENT

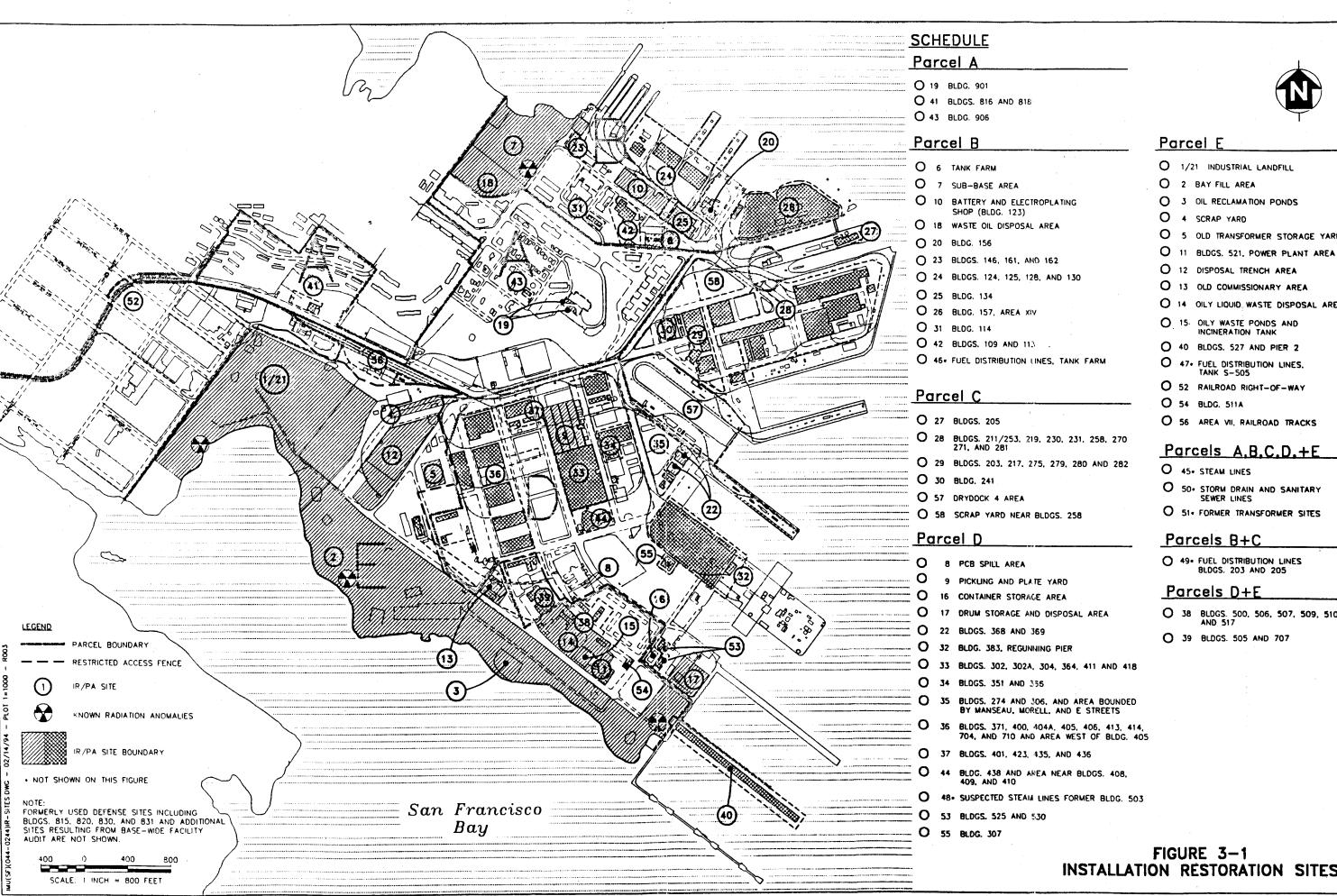
Community relations activities have been ongoing at HPA since late 1987. A chronology of community relations activities is presented in Table 3-11. Activities listed include public meetings, open houses, and workshops carried out by the Navy, plus preparation and distribution of the "Environmental Clean-Up News," a Navy publication that describes ongoing cleanup activities, newsletters, and Navy participation in large-scale public events such as Earth Day. The local community is dissatisfied with PRC and the Navy because the local community has not received significant subcontracts to work at HPA.

Activities of significance are as follows:

- Information Repository and Administrative Record An information repository and administrative record have been established and are maintained at two locations:

 (1) the San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street, and (2) the San Francisco Public Library, Main Library, corner of McAllister and Larkin. Both repositories were updated in December 1993 and will be updated at least quarterly in the future.
- Mailing List A community mailing list was prepared and has been frequently updated.
- Community Relations Plan (CRP) A CRP was prepared in 1989, and should be updated.

- Newsletters Thirty-five "Environmental Clean-Up News" newsletters have been published. These newsletters were distributed using the community via the mailing list and to various community groups.
- FFA Process The current FFA is dated January 22, 1992, as amended on September 13, 1993, by EPA and concurred with by the Navy on October 12, 1993. Updated FFA schedules will be negotiated as needed by the Navy, EPA, and the State of California. A new FFA schedule was agreed to on February 4, 1994, including schedules for an RI/FS, and a remedial plan and remedial design for HPA parcels B, C, D, and E.
- Technical Review Committee (TRC)/Restoration Advisory Board (RAB) The first TRC meeting was held in January 1989. Subsequent meetings were held approximately every 2 months thereafter. The TRC was changed and expanded to become the RAB in late 1993, with the first RAB meeting held on December 13, 1993.
- Community Meetings, Open Houses, Workshops and Tours The Navy has held numerous community meetings, open houses, workshops and tours as shown in Table 3-11.



- O 5 OLD TRANSFORMER STORAGE YARD

- O 14 OILY LIQUID, WASTE DISPOSAL AREA
- O 15- OILY WASTE PONDS AND

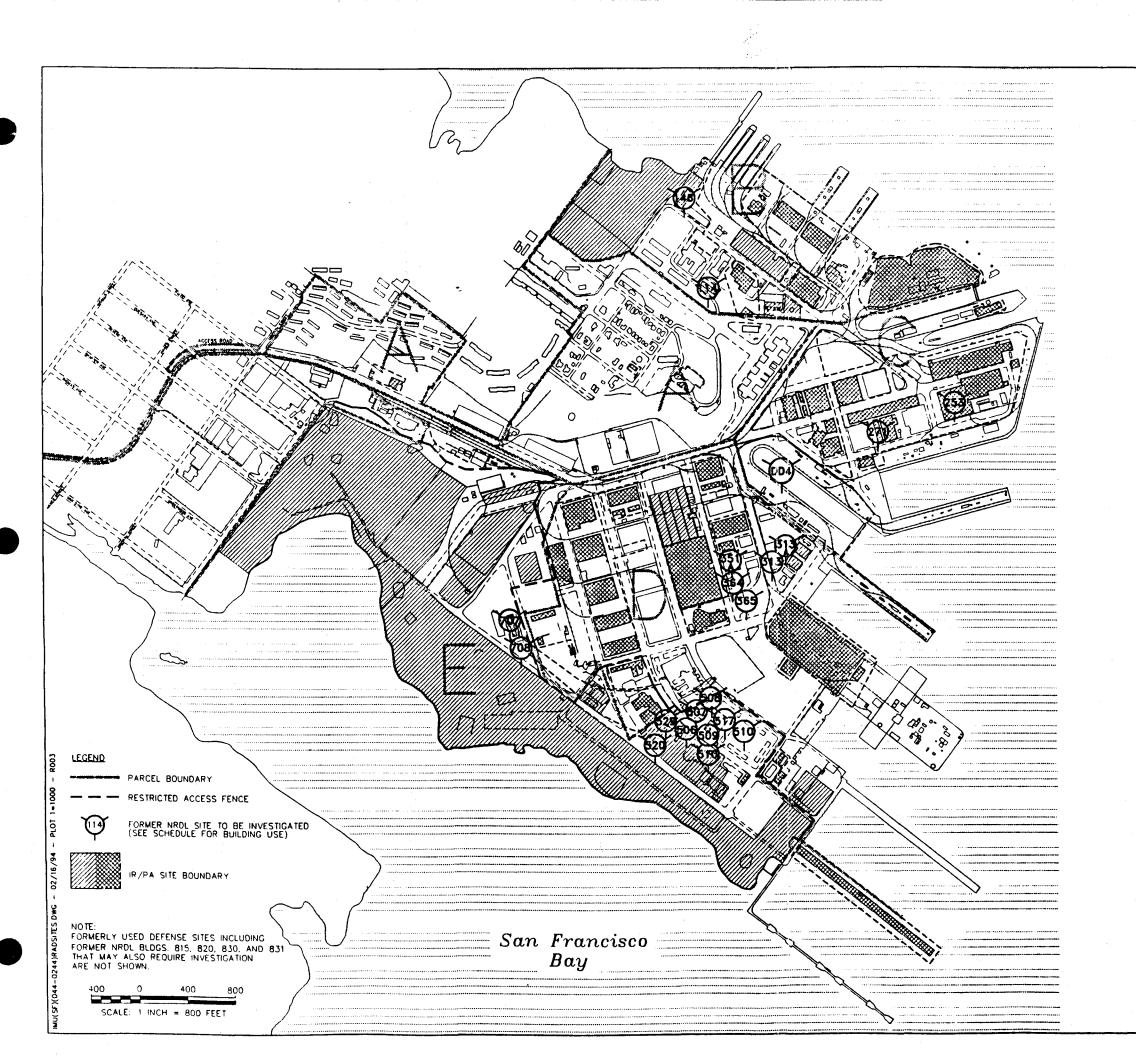
- O 56 AREA VII, RAILROAD TRACKS

Parcels A.B.C.D.+E

- O 50. STORM DRAIN AND SANITARY

O 49+ FUEL DISTRIBUTION LINES BLDGS. 203 AND 205

- O 38 BLDGS, 500, 506, 507, 509, 510 AND 517



SCHEDULE



Parcel B

- BLDG. 114 SHEET LEAD STORAGE FOR LEAD REMOVED FROM BUILDING 364 (RUINS)
- BLDG. 146 X-RAY SHIELDING VAULT

Parcel C

- BLDG. 253 INSTRUMENT CALIBRATION (UNOCCUPIED)
- BLDG. 271 PAINT SHOP ANNEX (UNOCCUPIED)
- DRYDOCK 4 AREA/PA-57

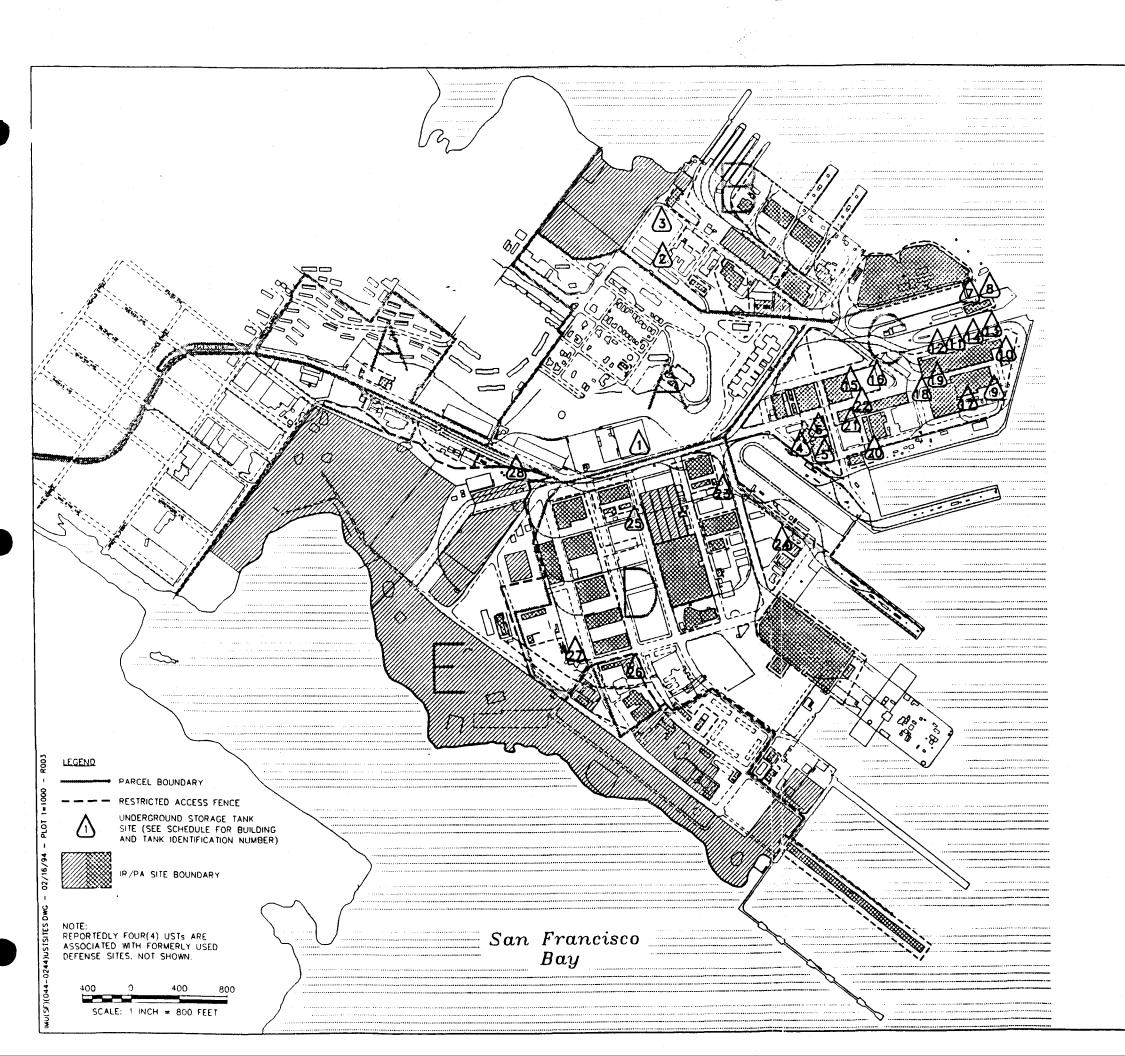
Parcel D

- BLDG. 313 STORAGE (RUINS)
- BLDG. 313A STORAGE (RUINS)
- BEDG. 351A INSTRUMENT REPAIR AND CALIBRATION (UNOCCUPIED)
- BLDG. 364 HOT CELL LABORATORY AND RADIOACTIVE EFFLUENT STORAGE TANK SUMP PIT (OCCUPIED BY LESSEE)
- B.DG. 365 FORMER NRDL PHOTOGRAPHIC FILM LABORATORY (UNOCCUPIED)

Parcel E

- DEDG. 506 CHEMISTRY LABORATORY (RUINS)
- PLDG. 507 BIOLOGICAL LABORATORY (RUINS)
- BLDG. 508 HEALTH PHYSICS OFFICE (RUINS)
- BLDG. 509 ANIMAL IRRADIATION SITE (RUINS)
- PLDG. 510 RADIATION PHYSICS SITE (RUINS)
- FLDG. 517 COBALT-60 IRRADIATION ROOM (RUINS)
- FLDG. 520 UNKNOWN USE (RUINS)
- FILDG. 529 RADIOISOTOPE STORAGE AND COCKCROFT-WALTON GENERATOR (RUINS)
- BLDG. 707 RESEARCH ANIMAL COLONY/RADIOACTIVE WASTE STORAGE SITE (UNOCCUPIED)
- BLDG. 708 BIOMEDICAL FACILITY (UNOCCUPIED)

FIGURE 3-2
FORMER NRDL BUILDINGS
AND SITES TO BE INVESTIGATED
FOR RADIATION



SCHEDULE

Parce! A

∆ UST 1 BLDG. 813, TANK S-812



Parce! B

△ UST 2 BLDG. 116, TANK S-135

△ UST 3 BLDG. 118, TANK S-1.36

Parcel C

\triangle UST 4 BLDG. 203, TANK S-203

△ UST 5 BLDG. 203, TANKS S-209 AND S-210

△ UST 6 BLDG. 203, TANKS 5-211, S-212 AND S-213

△ UST 7 BLDG. 205, TANK HPA-06

△ UST 8 BLDG. 205, TANK S-214

△ UST 9 BLDG. 211, TANK HPA-01

△ UST 10 BLDG. 231, TANK HPA-10

△ UST 11 BLDG. 231, TANK HPA-11

△ UST 12 BLDG. 231, TANK HPA-12

△ UST 13 BLDG. 231, TANK HPA-16

△ UST 14 BLDG. 231, TANK HPA-17

△ UST 15 BLDG, 251, TANK S-219.

△ UST 16 BLDG. 251, TANK S-251

△ UST 17 BLDG. 253, TANKS HPA-02 AND HPA-03

△ UST 18 BLDG. 253, TANKS HPA-04 AND HPA-05

△ UST 19 BLDG. 253, TANKS S-001, S-002, S-003 AND S-004

△ UST 20 BLDG. 271, TANK S-215

△ UST 21 BLDG. 272, TANK HPA-07

UST 22 BLDG. 281, TANKS HPA-33 AND HPA-34

Parcel D

△ UST 23 BLDG. 304, TANKS S-304 AND S-305

△ UST 24 BLDG. 308, TANK S-308

△ UST 25 BLDG. 435, TANKS S-435(1) AND S-435(2)

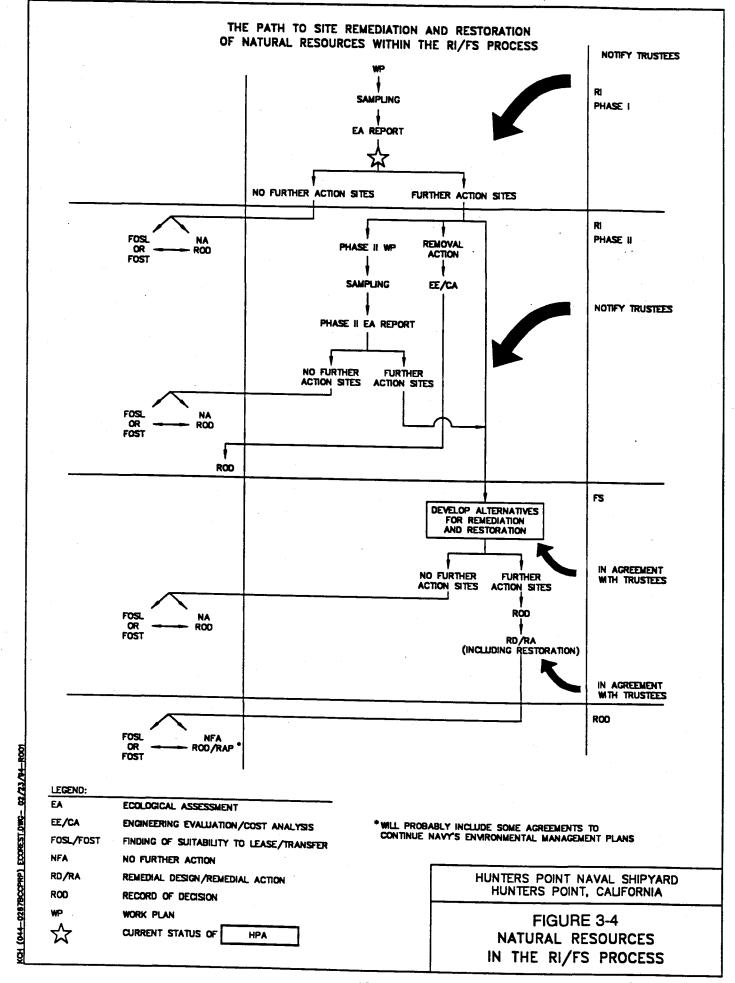
△ UST 26 BLDG. 505, TANK S-508

UST 27 BLDG. 709 TANKS S-711, S-712, S-713, S-714, S-715, HPA-14 AND HPA-15

Parcel E

△ US! 28 BLDG, 811, TANKS S-801 AND S-802

FIGURE 3-3
UNDERGROUND STORAGE
TANK SITES



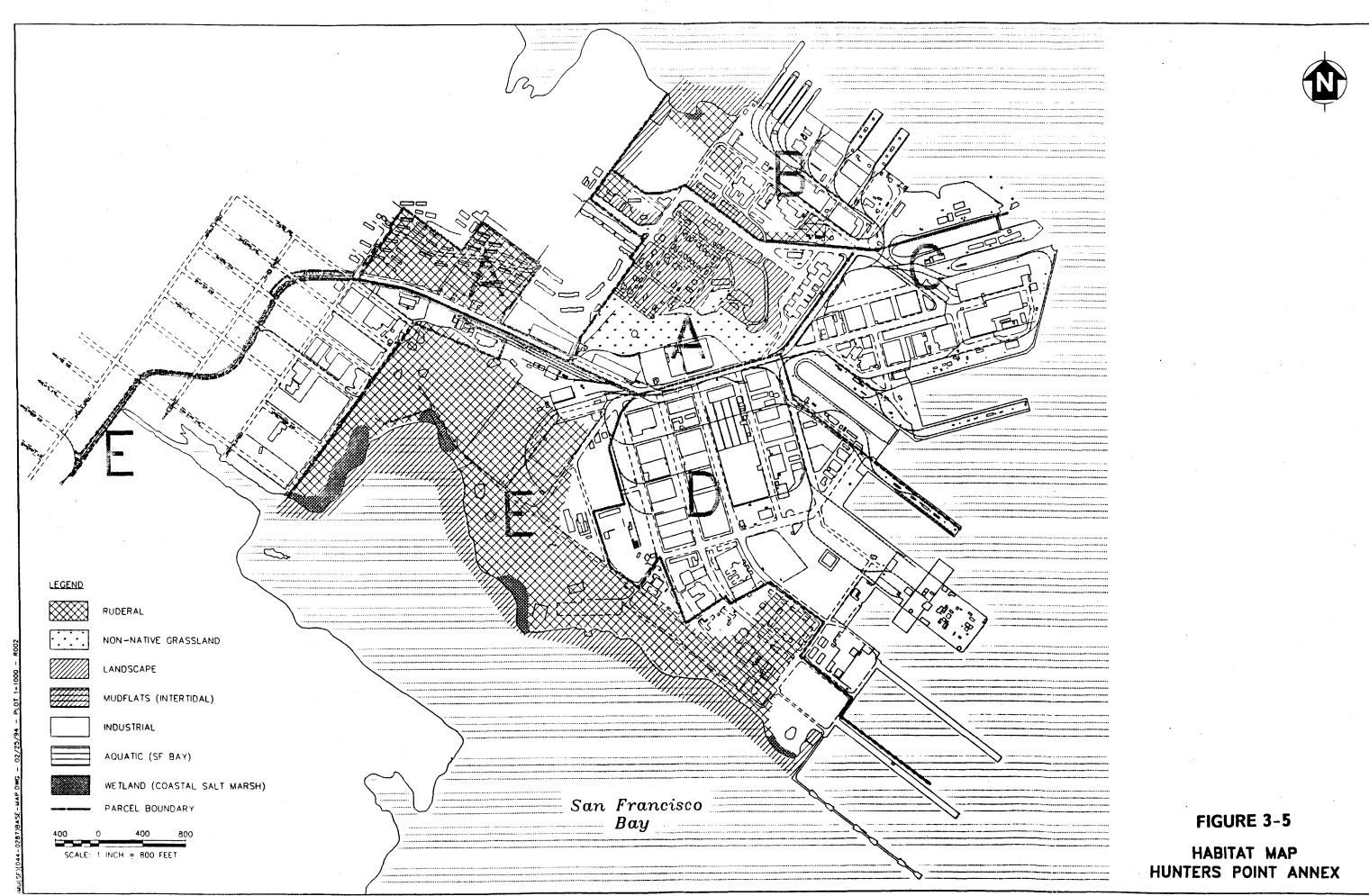


TABLE 3-1. a

	Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination b
	D,E	-	_	IR-38	Buildings 500, 506, 507, 509, 510 UST 26	Building 500: none - Other buildings: radioactive material		Potential RAD issue	Further investigation recommended; RAD watch
	D,E	-	-	IR-39	Buildings 505, 707 UST 27	Unknown chemicals, radioactive material		Potential RAD issue	Further investigation and RI work recommended; RAD watch
	A,B,C, D,E	-	. -	IR-45	Steam Lines	Waste oils		Fluids in lines to be removed	Further investigation and RI work recommended
3_35	В,С	-	•	IR-49	Fuel Distribution Lines; Buildings 203, 205	Fuel, fuel oil		Lines contained fuel and other fluids	Further investigation, RI work, and removal recommended
	A,B,C, D,E	-	• .	IR-50	USTs 4, 5, 6, 7, 8 Storm Drains/Sanitary Sewer Lines	Unknown		Contaminants in sediments in storm drain catch basin	Further investigation, RI work, sediment removal and further sampling recommended
	A,B,C, D,E	-	<u>.</u>	IR-51	Former Transformer Sites	PCBs		Stained soils in Parcels B & C	Further work for B and C only
	Α	-	<u>-</u>	PA-19	Building 901	Sandblast waste, oily material	None	No significant findings	To be released to city; no further action
	A	59-4	<u>-</u>	PA-41	Buildings 816, 818	Chlorine, radioactive material	None	No significant findings	To be released to city; no further action
	A	<u>-</u>	-	PA-43	Building 906	Pesticides, fertilizers	None	Pesticides in soil; soil removed	To be released to city *

TABLE 3-1 a (continued)

Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination b
В	-	-	PA-31	Building 114	Sandblast waste, radioactive material		No significant findings	No further action except RAD screening
В	59-10	-	IR-06	Tank Farm, AST	Diesel fuel, lubricating oil, Stoddard solvent		Soil and groundwater contamination	Further investigation recommended and interim remediation
В	-	-	IR-07	Sub-base Area	Diesel fuel, paint, solvents, sandblast waste, waste oils, radioactive fill material		Potential RAD issue	Further investigation and interim remediation recommended/RAD watch
В	59-11	-	IR-10	Battery and Electroplating Shop	Waste acids (with metals)		Waste acids in storm drains; Cyanide in landfill; Heavy metals in floor drains	No interim action recommended/ proceeding with RI activities
В	-	Unnumbered Site	IR-18	Waste Oil Disposal Site (Dago Marys) and Triple A Sites	Waste oil, radioactive fill material		Potential RAD issue Waste oil contamination	Further investigation recommended/RAD watch
В	•	-	IR-20	Building 156	Unknown chemicals, reclaimed oil		Cracked and stained asphalt; fluid and sludge in sump; unidentified pond-like feature	Further investigation recommended
В	-	. -	IR-23	Buildings 146, 161, 162	Fuels, paint resins, other unknown chemicals, radioactive material		Shallow soil contamination; spillage of oil and diesel in storm drains; possible chemical contamination	Excavation and further investigation recommended for portion of site

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TABLE 3-1 a (continued)

Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination b
В	•	-	IR-24	Buildings 124, 125, 128, 130	Acids, various chemicals, solvents, PCBs, paint		Various chemicals including VOCs, MEK, and hydrocarbons stored on portion of site; poor housekeeping identified	Further investigation and RI recommended
В	-	-	IR-25	Building 134	Sludge, oil, solvents		Oil and corrosive materials identified on floor and under machines; sumps, drums, dip tanks, and machines are of concern	Further investigation recommended
В	-	-	IR-26	Building 157 and Area XIV	Oils, paint, sandblast waste, PCBs, asbestos		Oily sludge and staining, a transformer, and storm drain sediment identified; possible UST, sandblast material and asbestos suspected	Excavation of shallow soil and further investigation recommended
В	-	_	IR-42	Buildings 109, 113, 113A	Oil/grease		Oil and grease, pitted floor stains, and possible buried tank identified	Excavation during RI recommended; removal of buried object and associated soils
В	-	-	IR-46	Fuel Distribution Lines/ Tank Farm	Diesel fuel, lubricating oil		Potential soil contamination	Removal of fluids from lines; removal of lines; further investigation recommended

TABLE 3-1 * (continued)

Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination ^b
C	-	-	-	Building 271	Paint, unknown chemicals, radioactive material		Potential RAD issue; potential chemical contamination associated with IR-28	Further investigation recommended under radiation program; RAD watch
С	-	-	-	Building 253	Radioactive material		Potential RAD issue; potential chemical contamination associated with IR-28	Further investigation recommended under radiation program; RAD watch
С	-	<u>-</u>	IR-27	Building 205 USTs 7, 8	Lubricating oil, dielectric fluid, asbestos		Asbestos, petrochemicals, lead oil and dielectric fluids identified	Removal and disposal of pump chamber water to POTW; No further action
С	-	-	IR-28	Buildings 211/253, 219, 230, 231, 258, 270, 271, 281 USTs 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22	Fuels, oils, paint, solvents, PCBs, sandblast waste, other unknown chemicals, and radioactive material		Potential RAD issue; UST sites; soil contamination, staining, oil releases; potential storm drain impaction	Develop criteria for UST removals; Further investigation and RI work recommended
С	-	.	IR-29	Buildings 203, 217, 275, 279, 280, 282 USTs 4, 5, 6	Fuel, oil, acid, paint, unknown chemicals, aluminum oxide, sandblast waste		UST sites; soil discoloration; photo and paint residues; possible leakage to storm drains of metals, particulates, and sandblast materials; VOCs identified in groundwater	Further investigation/RI work recommended; develop criteria for UST removals; possibly reconfigure site boundaries to allow for release of portion of site

TABLE 3-1 a (continued)

	Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination ^b
	С	-	-	IR-30	Building 241	Oil, asbestos		Stained and discolored soils; oozing oil and asbestos; potentially contaminated unlined utility trench	Excavation and further investigation/RI work recommended
3 30	С	-	-	IR-57	Dry Dock 4 Area	Oil, PCBs, sandblast waste		Sandblast materials; oil staining from transformers; storm drain contamination	Investigation and excavation of contaminated soils; sediment removal from storm drains; RI work recommended; radiological investigation recommended
	С	-	-	IR-58	Scrap Yard (near Building 258)	Oil, miscellaneous debris		Oil stains on soil; miscellaneous debris may contain oils, leaking lead acid batteries, and other leaking materials	Further sampling and RI work recommended
	D	-	9	PA-16	Container Storage Area	PCBs, unknown chemicals		Low levels of hydrocarbon and metal identified; miscellaneous chemicals identified	RI work for sample quality verification recommended
	D	-	-	PA-48	Suspected Steam Lines at former Building 503	Waste oil, PCBs	None	Potential PCBs and waste oil in steam lines; steam lines may have broken or leaked near building	No further action ROD recommended

TABLE 3-1 a (continued)

Parc	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination ^b
D	-	-	-	Building 313A	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
D	-	-	-	Building 313	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
D	-	-	-	Building 351A	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
D	-	-	. -	Building 365	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
D	-	-		Building 364	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
D	-	•	IR-08	Building 503, PCB Spill Area	PCBs		On-site transformers likely sources; PCBs found in groundwater	No further action recommended
D	59-8	-	IR-09	Pickling and Plate Yard	Acids		Containment vault, storm drains, and pickling tanks; potential sanitary sewer contamination	Interim remediation recommended; additional sampling to fill data gaps
D	-	10 & 11	IR-17	Drum Storage and Disposal Site	Industrial debris		Minor staining and debris	Quarterly monitoring for VOCs recommended; no interim action

	Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination b
	D	-	-	IR-22	Buildings 368, 369	Fuel, oils, sandblast waste, asbestos		SOC, TPH, asbestos, sandblast materials, and metals identified	RI work recommended
	D	-	-	IR-32	Building 383 and Regunning Pier	Radioactive material		No significant findings	No further action ROD recommended
2 41	D	-	-	IR-33	Buildings 302, 302A, 304, 364, 411, 418 UST 23	Fuels, oils, paint solvents, unknown chemicals, acids, sandblast waste, radioactive material		Potential oil and metal contamination; storm drain and subsurface contamination; potential UST; potential RAD issue	Exploratory excavation and RI work recommended; RAD watch
1	D	-	-	IR-34	Buildings 351, 366	Acids, oils, unknown chemicals		Leaking batteries, oil stains on soil and asphalt, leading to storm drain	RI work recommended
	D	-	-	IR-35	Buildings 274, 306	Unknown chemicals, PCBs, sandblast waste, radioactive material		Oil staining, PCB leaks, sandblast materials; potential storm drain and floor drain contamination; Potential RAD issue	RI work recommended; RAD watch
	D	-	-	IR-36	Buildings 371, 400, 404A, 405, 407, 406, 413, 414, 704, area west of Building 405, Plate Storage Area	Oils, PCBs, solvents, unknown chemicals, miscellaneous debris		Miscellaneous debris, scrap metal, PCBs, and leaking equipment; staining and poor housekeeping	Exploratory excavation and RI work recommended

TABLE 3-1 a (continued)

Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination ^b
D _.	. -	<u>-</u>	IR-37	Buildings 401, 423, 435, 436, 437 UST 25	Paint, solvents, unknown chemical(s)		Possible sources are storage drum, pickling/plate yard, paints and solvents	Exploratory excavation and RI work recommended
D	. · <u></u>		IR-44	Area near Buildings 408, 409, 410, 438	Sandblast waste		Sandblast materials and debris potentially in storm drains and buildings	RI work recommended
D	-	_	IR-53	Buildings 525, 530	Oil, fuel, adhesives, paint, unknown chemicals		Oil and/or possible chemical staining	Exploratory excavation and RI work recommended
D	<u>-</u>	-	IR-55	Building 307	Oil, unknown hazardous material	•	Oil leaks and soaking; underground vaults	Exploratory excavation and RI work recommended
Е	-	_	PA-40	Building 527 and Pier 2	PCBs		No significant findings	No further action ROD recommended
E	-	-	PA-47	Fuel Distribution Lines, Tank S-505	Diesel fuel, oil		Oil identified in lines	Remove oil and lines
E	· -	-	PA-54	Building 511A	Miscellaneous debris		No significant findings	No further action ROD recommended
E	-	<u>-</u>	-	Building 508	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
E	-	-	-	Building 517	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch

TABLE 3-1 a (continued)

	Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination b
ĺ	Е	-	-	_	Building 507	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	E	-		-	Building 520	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	E	-	-	_	Building 510	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	E	- ′	-	<u>-</u>	Building 529	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	E	-	-	-	Building 708	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	E	-	•	-	Building 707	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	E	-	-	-	Building 509	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch
	Е	-	-	<u>-</u>	Building 506	Radioactive material		Potential RAD issue	Site visit and radiological survey recommended; RAD watch

TABLE 3-1 a (continued)

SITE SUMMARY TABLE

	Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination ^b
	E	59-9 and 59-2	2, 13, 14, 17, 18, and 19	IR-02	Bay Fill Area, excluding IR-03	Industrial debris, drums, paint containers, asphalt, asbestos, sandblast waste, waste oil and oil containing PCBs, other unknown liquid waste		Possible groundwater migration into bay; Potential RAD issue	Containment studies and presumptive remedies recommended; radiation survey, removal feasibility study, and develop remediation approach for radiumcontaining materials; RAD watch
3	E	59-1	Part of 17	IR-03	Oil Reclamation Ponds Building 600	Oil, unknown liquid wastes, sandblast waste		Waste oil in upper aquifer identified	Implement treatability study
	Е	59-5	3	IR-04	Scrap Yard, Building 807	Capacitors, scrap metal (lead and copper), drums, asbestos, batteries, other unknown liquid wastes		No significant findings	No interim action recommended
	E	59-6	<u>-</u>	IR-05	Old Transformer Storage Yard	Batteries (containing acids, metals), PCBs		Metal residues, PCBs, and oils releases	No interim action recommended
	E	59-7	-	IR-11	Building 521, Power Plant	Solvents, paint, asbestos		Asbestos, solvents, and paints	Interim removal action for surface soils recommended
	E	<u>-</u>	Part of 3 and Part of 4	IR-12	Disposal Trench and Salvage Yard, Former Building 702	Oil, acids, bases, solvents, lead-based paint, paint containers, sludges, other unknown wastes		Oil and liquid chemical contamination; staining	Interim removal action for surface soils recommended

TABLE 3-1 a (continued)

SITE SUMMARY TABLE

Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination b
Е	-	5 and 15	IR-13	Old Commissary Site former Buildings 524 and 803	Fuel, oils, PCBs, miscellaneous waste		Potential contamination from drums, waste piles, and transformers	Reconfigure site boundaries between IR-13, IR-14, and IR-39 to avoid schedule conflicts; RI work recommended
E	-	6 and 7	IR-14	Oily Liquid Waste Disposal Site	Oil, mixed waste, miscellaneous debris, sandblast waste, radioactive material		Oil, mixed waste, sandblast waste, staining, sludges, and debris identified; Potential RAD issue	Interim removal action for surface soils and radiological survey recommended; RAD watch
E	-	12 and 13	IR-15	Oily Waste Ponds and Incineration Tank	Waste oil, miscellaneous debris		No surficial oil pond or incinerator tank remaining; disposal site for oil and debris	Interim removal action for soils recommended
E	•	-	IR-52	Railroad Right of Way	Paint, resins, oil, miscellaneous debris		Soil staining and random waste dumping; potential chemical treatment of lumber and railroad ties	Removal of rubbish along railroad, cap with asphalt, and restrict access; RI work recommended

TABLE 3-1 a (continued)

SITE SUMMARY TABLE

Parcel	IAS Site No.	Triple A Site No.	IR Site No.	Description	Suspected Material Used and/or Disposed of at Site	Risk to Human Health or Environment ^b	Findings ^b	Final Determination ^b
E	-	. <u>-</u>	IR-56	Area VII, Railroad Tracks UST 28	PCP (wood preservative)		Potential chemical treatment of lumber and railroad ties	RI work recommended

a All sites in Table 3-1 are being evaluated under the Hunters Point Annex installation restoration program.

b Information for Risk to Human Health or the Environment, Findings, and Final Determination columns will be added at a later date.

IR- Installation restoration site number

SI- Site inspection site number

S- Storage tank number PCBs polychlorinated biphenyls

IAS Site numbers assigned under the Navy's Initial Assessment Study Program.

Triple A Sites named under the San Francisco District Attorneys Investigation of Triple A Machine Shop.

Encountered contamination is groundwater grab sample from Boring B016, adjacent to PA-43.

NOTE: Formerly used defense sites including Buildings 815, 820, 830, and 831 and additional sites resulting from the base wide facility audit are not included in

this tables.

Source: PRC 1993a. Long Term Plan SI Reports for parcels B, C, and D

TABLE 3-2

EARLY ACTIONS STATUS

Site No.	Action	Purpose	Status
IR-02	Removal of soil, Tank S-505, and capping of site.	Reduce contaminant source and mitigate leaching of remaining contaminants into groundwater.	Soil removal and capping completed in 1993 but further investigation and remediation needed.
IR-03	Conduct product recovery.	Remove floating product.	Completed in 1992.
IR-06	Removal of tanks, pump houses (Buildings 111 and 112) and soil at the Tank Farm, and capping of site.	Reduce contaminant source.	Soil, pump houses, and tanks removal completed in 1993, but further investigation and remediation needed.
IR-08	Removal of PCB-containing soil.	Reduce contaminant source.	Soil removal completed in 1986.
PA-19,41,43	Investigation by excavation	Determine extent of source and remove.	Conducted in 1993.
Basewide	Sandblast grit fixation (grit to be used as an aggregate in asphaltic concrete)	Stabilize and reuse.	Full scale - pilot study and test sections completed, full scale implementation being considered.

TABLE 3-3
SUMMARY OF CLOSURE-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
Underground Storage Tanks	36 USTs removed 10 USTs closed in place	California UST Regulations
Aboveground Storage Tanks	10 IR-6 tanks removed S-505 tank removed	CERCLA SARA RCRA, Subtitle C CCR
Hazardous Materials/Waste Management	HPA has a hazardous waste management plan.	RCRA, Subtitle C
	Buildings 814 and 810 are managed as hazardous waste accumulation areas.	
PCB Storage/Removal	Most PCB equipment with PCB concentration greater than 50 ppm removed from all parcels. Funds budgeted for further removal.	TSCA, EPA Policy
Radon	No activities at HPA, BRAC funding set aside for 1996.	Clean Air Act (NAAQS/NESHAP)
NPDES	NPDES permit for dry docks. Interim stormwater discharge permit. Routine reporting.	Clean Water Act
Lead-Based Paint	No program or activities at HPA.	None
Asbestos Survey	Survey completed for Parcel A and Dry Dock 4. Survey of remaining parcels is underway.	Clean Air Act (Federal EPA National Emissions Standards for Hazardous Air Pollutants [NESHAPS])

Sources:

- 1. PRC 1993b.
- 2. WESTDIV 1992.
- 3. Sullivan, J. 1993.
- 4. Corpos 1994.

HPA BCP, (11:00 am) TBL3-3.KW, (March 5, 1994)

TABLE 3-4

UNDERGROUND STORAGE TANK INVENTORY *

UST Site No.	Tank No.	Location	Parcel	Date Installed	Capacity (gallons)	Tank Material	Contents	Status	Future Actions	Comments
1	S-812	Building 813	A	1976	13,000	steel	fuel oil	Removed in Phase I	No further action.	No holes or corrosion pits in tank. No discoloration or odors in soil samples. Minor VOCs and SVOCs detected during removal operations. No contamination reported during resampling.
2	S-135	Building 116	В	NA	1,250	steel	fuel oil	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
3	S-136	Building 118	В	NA	750	steel	fuel oil	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
4	S-203	Building 203	С	NA	500	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
5	S-209	Building 203	C	NA	210,000	concrete	fuel oil	Closed in place in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
5	S-210	Building 203	С	NA	14,000	steel	brine	Closed in place in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
6	S-211	Building 203	С	NA	3,000	steel	fuel oil	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
. 6	S-212	Building 203	C	NA	4,500	steel	fuel oil	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
6	S-213	Building 203	С	1943	35,000	concrete	water condensate	Removed in Phase II.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
7	HPA-06	Building 205	С	NA	24,000	concrete	diesel	Closed in place in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
8	S-214	Building 205	С	1940	21,924	steel	fuel oil	Closed in place in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.

HPA BCP, (11:00 am) TBL3-4.KW, (March 5, 1994)

3-50

TABLE 3-4 (continued)

UNDERGROUND STORAGE TANK INVENTORY *

UST Site No.	Tank No.	Location	Parcel	Date Installed	Capacity (gallons)	Tank Material	Contents	Status	Future Actions	Comments
9	HPA-01	Building 211	С	NA	122	steel	diesel	Removed in Phase II; currently preparing UST summary report.	No further action.	No holes or corrosion pits in tank. No discoloration or odors in soil samples. Minor concentrations of SVOCs detected; possible laboratory contaminants.
10	HPA-10	Building 231	С	NA	6,500	steel	fuel oil	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
11	HPA-11	Building 231	С	NA	1,600	steel	diesel	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
12	HPA-12	Building 231	C	NA	750	steel	diesel	Closed in place in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
13	HPA-16	Building 231	С	NA	7,200	concrete	water	Closed in place in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
14	HPA-17	Building 231	С	NA	1,700	steel	diesel	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
15	S-219	Building 251	С	NA	1,000	steel	gasoline/ diesel	Removed in Phase II; currently preparing UST summary report.	No further action.	No holes or corrosion pits in tanks. No discoloration or odors in soil samples. Minor concentrations of VOCs detected; possible laboratory contaminants.
16	S-251	Building 251	С	NA	1,000	steel	solvent	Removed in Phase I	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
17	HPA-02	Building 253	С	NA	1,500	steel	solvent	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
17	HPA-03	Building 253	С	NA	1,500	steel	waste solvent	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.

TABLE 3-4 (continued)

UNDERGROUND STORAGE TANK INVENTORY *

UST Site No.	Tank No.	Location	Parcel	Date Installed	Capacity (gallons)	Tank Material	Contents	Status	Future Actions	Comments
18	HPA-04	Building 253	С	NA	1,000	steel	gasoline and diesel	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
18	HPA-05	Building 253	С	NA	1,000	steel	gasoline and diesel	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
19	S-001	Building 253	С	1976	3,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
19	S-002	Building 253	С	1976	3,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
19	S-003	Building 253	С	1976	3,000	steel	diesel	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
19	S-004	Building 253	C	1976	3,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
20	S-215	Building 271	С	NA	25,320	steel	paint thinner	Closed in place in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
21	HPA-07	Building 272	С	NA	500	steel	waste oil	Removed; currently preparing UST summary report in Phase II.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
22	HPA-33	Building 281	С	NA	3,000	steel	gasoline/ diesel/ solvents	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
22	HPA-34	Building 281	С	NA	750 ·	steel	gasoline/die sel/solvents	Removed in Phase II; currently preparing UST summary report.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
23	S-304	Building 304	D	1943	7,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
23	S-305	Building 304	D	1943	7,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.

TABLE 3-4 (continued)

UNDERGROUND STORAGE TANK INVENTORY *

UST Site No.	Tank No.	Location	Parcel	Date Installed	Capacity (gallons)	Tank Material	Contents	Status	Future Actions	Comments
24	HPA-308	Building 308	D	NA	500	steel	gasoline	Closed in place in Phase II; currently preparing UST summary report.	No further action.	No discoloration or odors in soil samples. Minor concentrations of VOCs and SVOCs detected; possible laboratory contaminants.
25	S-435(1)	Building 435	D	NA	750	steel	solvents	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
25	S-435(2)	Building 435	D	NA	750	steel	solvents	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
26	S-508	Building 505	D	mid 1940's	750	steel	fuel oil	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	S-711	Building 709	D	NA	5,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	S-712	Building 709	D	NA	5,000	steel	gasoline	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	S-713	Building 709	D	NA	5,000	steel	diesel	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	S-714	Building 709	D	NA	5,000	steel	diesel	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	S-715	Building 709	D	NA	500	steel	oil	Removed in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	HPA-14	Building 709	D	NA	30	steel	hydraulic fluid	Removed in Phase II.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
27	HPA-15	Building 709	D	NA	30	steel	hydraulic fluid	Removed in Phase II.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.

TABLE 3-4 (continued)

UNDERGROUND STORAGE TANK INVENTORY ^a

UST Site No.	Tank No.	Location	Parcel	Date Installed	Capacity (gallons)	Tank Material	Contents	Status	Future Actions	Comments
28	S-801	Building 811	Е	NA	10,000	steel	gasoline	Closed in place in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.
28	S-802	Building 811	Е	NA	10,000	steel	gasoline	Closed in place in Phase I.	Further investigation of extent of soil and groundwater contamination.	Investigation being integrated with adjoining PA or IR site.

Source:

PRC 1993b

Note:

Inventory does not include 4 additional USTs at FUDS building 815, to be investigated under parcel E RI work.

Phase I

All tanks removed or closed in place in Phase I by November 1991

Phase II

All tanks removed or closed in place in Phase II by October 1993

See Figure 3-2 for location of UST site.

TABLE 3-5
ABOVEGROUND STORAGE TANK INVENTORY

Tank	Parcel	Number of Tanks	Capacity (gallons)	Contents	Status
Building 146	В	2	unknown	unknown	To be evaluated
IR-06, Tank Farm	В	1	12,000	lube oil	Removed 1993
IR-06, Tank Farm	В	2	12,000	stoddard solvent	Removed 1993
IR-06, Tank Farm	В	6	12,000	diesel fuel	Removed 1993
IR-06, Tank Farm	В	1	210,000	diesel fuel	Removed 1993
Building 236	D	1	unknown	unknown	To be evaluated
Building 375	D	2	unknown	unknown	To be evaluated
Building 378	D	1	unknown	unknown	To be evaluated
S-505	Е	1	690,000	fuel and waste oil	Removed 1993

Source:

HLA 1993b

TABLE 3-6

TSCA PCB CLASSIFICATION

PCB Fluid Concentration	Classification
Less than 50 parts per million (ppm)	Non-PCB
Greater than 50 ppm but less than 500 ppm	PCB contaminated
Greater than or equal to 500 ppm	РСВ

TABLE 3-7 NATURAL RESOURCES STATUS

Natural Resource	Status	Data Source		Comments on Data	То Ве
	·	Primary	Secondary	Source	Determined
Threatened and Endangered species	P	Field Survey, (PRC 1993a) Personal communication with Alan Hopkins (PRC 1993d)	NA	Field survey confirmed Hopkins observations. Source is reliable.	Final terrestrial species survey report is still under development.
Rare or Sensitive Habitat (Mudflats and possible habitat for burrowing owls)	P	USGS Map, Hunters Point quadrangle (USGS 1980) Personal communication with Alan Hopkins (PRC 1993d).	NA	Data source is reliable.	Habitat survey report is still under development.
Wetlands	P	Delineation Report (WESTDIV 1991) Delineation Report (PRC 1993e).	NA .	1993 survey confirmed 1991 delineation with an addition of one wetland area. Data source is reliable.	No further information needed.
Surface Waters (freshwater, marine)	P	USGS Map, Hunters Point Quadrangle (USGS 1980).	NA	Data source is reliable.	No further information needed.

NATURAL RESOURCES STATUS

Natural Resource	Status	Data Source		Comments on Data	То Ве
		Primary	Secondary	Source	Determined
Flood Plains	A	NA	USGS (1980)	Data source is reliable.	No further information needed.
Migratory Birds	P	Alan Hopkins, Golden Gate Audubon Society, personal communication (PRC 1993b)	NA	Source in knowledgeable, but results not published. Mr. Hopkins is gathering data for a breeding bird atlas of San Francisco Bay.	Awaiting Confirmation by Doug Bell of California Academy of Sciences.
Fisheries (include harvested invertebrates)	P	Hieb (1992)	NA	Data source is reliable.	No further information needed.
Marine Mammals	P	Mike Torok, Moss Landing Marine Laboratory, personal communication (PRC 1993f)	NA	Mr. Torok is a graduate student studying pinnipeds in SF Bay using radiotracking techniques as well as observation data. Source is knowledgeable, but results not published.	Awaiting confirmation data and additional information.

NATURAL RESOURCES STATUS

Natural Resource	Status	Data Source		Comments on Data	То Ве
		Primary	Secondary	Source	Determined
California Special Animals	P	Alan Hopkins, personal communication (PRC 1993b)	NA	Source is knowledgeable but results not published.	Awaiting final terrestrial species survey report.
California Special Plants	P	California Native Plant Society Survey, 4/30/89	NA	Survey done in spring and, data source is reliable.	Awaiting terrestrial plant survey to be completed.
Plants or Animals of Public Interest	NC	NA	NA	NA	Awaiting species lists.

P Present

A Absent

NA Not available

NC Not confirmed



RESPONSIBILITIES OF NATURAL RESOURCE TRUSTEES

Resource	NOAA	Navy ¹	DTSC ²	CDFG	USFWS	Other
Wetland						ACOE and EPA under CWA Section 404
Commercial Fishes	X			X	X (diadromous)	
Native fishes (non-game)				х	X (diadromous)	
Native wildlife				X	X	
Threatened and Endangered Species	X (NMFS)	·		X	Х	
Migratory Birds					х	
Native Plants				Х	х	
Marine Mammals	X		·			
Water			х			
Air			Х			Bay Area Air Quality Management District
Minerals						BLM
Soil			X			

Global responsibility as land steward.

ACOE

U.S. Army Corps. of Engineers

BLM **CDFG** U.S. Bureau of Land Management California Department of Fish and Game

CWA

Clean Water Act

Diadromous

Fish species that migrate between freshwater and seawater.

DTSC

California Department of Toxic Substances Control (Division of California EPA)

EPA

U.S. Environmental Protection Agency

Navy

U.S. Naval Facilities Engineering Command, Western Division

NMFS

U.S. National Marine Fisheries (Division of NOAA)

NOAA

U.S. National Oceanic & Atmospheric Administration

USFWS U.S. Fish and Wildlife Service

Global responsibility as lead CERCLA agency. 2

TABLE 3-9
THREATENED AND ENDANGERED SPECIES

Species	Common Name	Status
Ocnorhynchus tshawytscha ¹	Chinook salmon	SSC (spring run) SE, FT (winter run)
Spirinchus thaleichthys1	Longfin smelt	FC1
Falco peregrinus¹	Peregrine falcon	SE FE
Eremophila alpestris ²	Horned Lark	SSC FC2
Lanius ludovicianus¹	Loggerhead shrike	CSC FC2
Pelecanus Occidentalis ²	California Brown Pelican	FE SE
Geothlypis trichas²	Common yellowthroat	SSC SBS FC2

STATUS CODES

FE	Listed as	endange	red by	the	federal	government
					a	C C 11C .

SE Listed as endangered by the State of California FT Listed as threatened by the federal government

FC1 Category 1 candidate for listing by the U.S. Fish and Wildlife Service (USFWS) (sufficient biological information is available to support a proposal to list taxa as endangered or threatened.)

FC2 Category 2 candidate for listing by the U.S. Fish and Wildlife Service (existing information indicates taxa may warrant listing, but substantial biological information necessary to support a proposed rule is lacking.)

SSC California Department of Fish and Game Species of Special Concern

SBS USFWS Sensitive Bird Species are designated as those that could become threatened or endangered in the foreseeable future.

NOTES:

Observed at HPA

2 May be present at HPA

TABLE 3-10
CALIFORNIA SPECIAL ANIMALS

Species	Common Name	Status
Ocnorhynchus tshawytscha ¹	Chinook salmon	SSC (spring run) SE, FT (winter run)
Spirinchus thaleichthys¹	Longfin smelt	FC1
Gavia immer ²	Common loon	SSC
Pelicanus erythrorhychos ²	American white pelican	SSC
Pelecanus occidentalis¹	California brown pelican	SE, FE
Phalacrocorax auritus¹	Double crested cormorant	SSC
Bucephala islandica¹	Barrow's goldeneye	SSC
Charadrius alexandrinus ²	Snowy plover	SSC FC2 SBS MC
Numenius madagascariensis¹	Long-billed curlew	SSC
Larus californicus ¹	California gull	SSC
Sterna caspia²	Caspian tern	SSC
Sterna elegans²	Elegant tern	SSC
Circus cyaneus ²	Northern harrier	SSC AB
Pandion haliaetus¹	Osprey	SSC
Falco peregrinus¹	Peregrine falcon	SE, FE
Asio flammeus²	Short-eared owl	SSC SBS AB
Athene cunicularia¹	Burrowing owl	SSC
Eremophila alpestris²	Horned lark	SSC FC2
Lanius ludovicianus¹	Loggerhead shrike	CSC FC2

CALIFORNIA SPECIAL ANIMALS

Species	Common Name	Status
Geothlypis trichas²	Common yellowthroat	SSC SBS FC2
Melospiza melodia²	Song sparrow	SSC FC2

STATUS CODES

- FE Listed as endangered by the federal government
- SE Listed as endangered by the state of california
- FT Listed as threatened by the federal government
- FC1 Category 1 candidate for listing by the U.S. Fish and Wildlife Service (sufficient biological information is available to support a proposal to list taxa as endangered or threatened.)
- FC2 Category 2 candidate for listing by the U.S. Fish and Wildlife Service (existing information indicates taxa may warrant listing, but substantial biological information necessary to support a proposed rule is lacking.)
- SSC California Department of Fish and Game Species of Special Concern
- SBS USFWS sensitive bird species are designated as species that could become threatened or endangered in the foreseeable future.
- MC Species is a nongame migratory bird of special federal management concern because of documented or apparent population declines, small or restricted populations, and dependence on restricted or vulnerable habitats.
- AB Species listed on the Audubon Blue List of birds designated by the National Audubon Society as experiencing a population decline.
- NOTES:
- Observed at HPA

1

2 Expected to be at HPA

TABLE 3-11
SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity
1 December 1987	Navy distributes Information Release No. 1 providing overview of clean-up process and community relations program.
2 December 1987	Community Relations Scoping Meeting conducted with elected officials.
3 December 1987	Community Relations Scoping Meeting conducted with community representatives.
9 December 1987	Community Relations Scoping Meeting conducted with environmental groups.
9 December 1987	Navy distributes Information Release No. 2 announcing removal of polychlorinated biphenyl (PCB) contaminated oil in Tank S-505.
January 1988	Community interviews conducted with elected officials, community representatives, regulatory officials, and environmental groups.
27 January 1988	Navy distributes Information Release No. 3 announcing removal of chlorine gas cylinders.
8 February 1988	Navy distributes Information Release No. 4 announcing District Attorney investigation of alleged Triple A Machine Shop hazardous waste disposal.
23 May 1988	Navy distributes Information Release No. 5 announcing removal of PCB-contaminated soil near former Building 503.
3 August 1988	Navy distributes Information Release No. 6 announcing upcoming community meetings. Other topics include start of reconnaissance activities, submittal of community relations plan, beginning of sampling, and hiring of environmental community relations specialist.
3 August 1988	Navy establishes Information Repository at San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street, San Francisco, CA.
12 August 1988	Navy distributes Information Release No. 7 describing completion of PCB-contaminated soil removal at former Building 503, removal of leaking PCB transformers, and upcoming community meetings.
24 August 1988	Afternoon community meeting at Bayview Opera House.
24 August 1988	Evening community meeting at Bayview Opera House.
23 September 1988	Navy distributes Information Release No. 8 describing disposal of hazardous waste from Fence-to-Fence survey and removal of PCB-contaminated oil from Tank S-505
20 October 1988	Navy begins Environmental Outreach Program.

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity
2 December 1988	Navy distributes Information Release No. 9 announcing completion of Community Relations Plan. Other topics include the Environmental Outreach Program, formation of Technical Review Committee, continued disposal of hazardous waste from Fence-to-Fence survey, commencement of a pilot program to treat sandblast waste, and planned removal actions at five sites at Hunters Point Annex.
10 January 1989	As part of the Navy's Environmental Outreach Program, the Navy conducted a mailing to every postal customer in the 94124 zip code (10,500 names) with a return card to be added to the Hunters Point Annex mailing list.
19 January 1989	Navy distributes Information Release No. 10 describing change in disposal plans for PCB-contaminated oil from Tank S-505 and disposal of hazardous waste from remedial investigations.
6 March 1989	Navy sends letter and Fact Sheet to 550 new members of the Hunters Point Annex mailing list added by the Environmental Outreach Program.
14 April 1989	Navy distributes Information Release No. 11 announcing upcoming community meeting. Other topics include start of public comment period on removal actions, completion of reconnaissance activities, discussion of whether Hunters Point Annex is contaminated with radioactive waste, welcome to new mailing list members, appointment of public member to the Technical Review Committee by the Mayor of San Francisco, availability of the environmental outreach display in the Bayview community, and continued disposal of soil from site investigations.
26 April 1989	Navy publishes newspaper notice in the Sun Reporter announcing upcoming community meeting and public comment period on proposed removal actions at Hunters Point Annex.
5 May 1989	Navy holds community meeting at Bayview Opera House describing clean- up program and removal actions and receives public testimony on removal actions.
5 May 1989	Navy hosts Information Open House at Bayview Opera House on the environmental clean-up program and proposed removal actions.
6 June 1989	Navy distributes Information Release No. 12 announcing extension of public comment period for removal actions and presenting a summary of the Hunters Point Annex Community Relations Program.
14-16 June 1989	Navy participates in Environmental Outreach Program at San Francisco Public Library, Main Branch, San Francisco, CA.

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity
12 July 1989	Navy distributes Information Release No. 13 announcing proposed inclusion of Hunters Point Annex on National Priorities List by the U.S. Environmental Protection Agency (EPA). Other topics include a description of the listing process, the past work the Navy has done with the State of California, the role of the EPA in the ongoing investigation, the significance of Hunters Point Annex's placement on the National Priorities List, a discussion of an Interagency Agreement, the availability of Technical Assistance Grants, the continuing role of the State of California, and a discussion of why the Navy is conducting removal actions at Hunters Point Annex.
13 July 1989	Navy establishes a second Information Repository at the San Francisco Public Library, Main Library, Corner of Larkin and McAllister, San Francisco, CA.
11 August 1989	Navy distributes Information Release No. 14 announcing implementation of demonstration sandblast treatment project and appointment of project manager for Hunters Point Annex by EPA.
10-12 October 1989	Navy hosts Environmental Outreach Program at Pier 39 in San Francisco as part of Fleet Week 1990.
February 1990	Navy releases Responsiveness Summary of public comments on proposed removal actions at Hunters Point Annex.
23 February 1990	Navy distributes Information Release No. 15 describing work plans and the Responsiveness Summary for removal actions. Other topics include start of a new public comment period, a summary of removal action work plans, and a discussion of public health concerns during removal actions.
4 May 1990	Navy distributes Information Release No. 16 describing addition of five new Installation Restoration (IR) sites (12, 13, 14, 15, and 17). Other topics include ongoing preliminary assessments of other areas at Hunters Point, naming a new public member to the Technical Review Committee, public review of work plans and the responsiveness summary for Tank S-505 and the Tank Farm, a second public comment period for removal actions, summary of Tank S-505 and Tank Farm removal action work plans, start of removal actions at Building 521 Power Plant, start of negotiations on the Federal Facilities Agreement (FFA), and commencement of work by a new contractor.
20 July 1990	Navy distributes Information Release No. 17 describing underground tank removal program implementation. Other topics include an update on the sandblast removal action and FFA negotiations.

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity
18 September 1990	Navy distributes Information Release No. 18 describing completion of the asbestos removal action. Other topics include completion of underground tank pumping, primary field work completed for Group II sites, completion of draft Reconnaissance Survey, award of contract for Remedial Investigation, field work to begin for Group I sites in October, sampling plans completed for new IR sites (12, 13, 14, 15, and 17), new Commanding Officer for Treasure Island, final work plans for Tank S-505 and Tank Farm removal actions, and completion of the draft Preliminary Assessment for Other Areas/Utilities.
16 October 1990	Navy distributes Issue No. 19 of Environmental Clean-up News. Other topics include the signing and content of the FFA and the associated public comment period.
7 November 1990	Navy distributes Issue No. 20 of Environmental Clean-up News announcing upcoming public meeting on November 20, 1990 at the Bayview Opera House. Other topics include the addition of four new IR sites (Buildings 901, 156, 810, 368, and 369).
20 November 1990	Navy holds public meeting at Bayview Opera House. Meeting includes presentations on the FFA, ongoing field work, removal actions, community relations, and the public comment period.
20 November 1990	Navy hosts Open House at Bayview Opera House to provide information about the Environmental Clean-up Program at Hunters Point Annex.
20 November 1990	Navy distributes November 1990 Update to the Navy's Environmental Clean-up Program at Hunters Point fact sheet. Topics include history of Hunters Point, discussion of the problem and interim removal actions, the Installation Restoration Program, the FFA, an updated map of all sites under investigation, clean-up schedules, and the community relations process.
18 January 1991	Navy distributes Issue No. 21 of Environmental Clean-up News. Topics include an update on removal actions at the Pickling and Plate Yard, Tank S-505, the Tank Farm, and the Sandblast Pile. Other topics include discovery of contaminated oil at IR-3 and the Navy's response action.
23 January 1991	Navy hosts workshop with San Francisco Mayor's office and City and County of San Francisco staff to discuss the Environmental Clean-up Program in preparation for the Congressionally-mandated leasing and redevelopment of Hunters Point Annex.
26 March 1991	Navy distributes Issue No. 22 of Environmental Clean-up News discussing the Ecological Assessment proposed for Hunters Point Annex.

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity	
18 June 1991	Navy distributes Issue No. 23 of Environmental Clean-up News discussing the proposed closure of Hunters Point Annex. Other topics include the base closure process, a status report on the Navy's clean-up, the Summary of Findings Memorandum for Operable Unit No. 2, modification of the Bay Fill Trenching Plan in response to field sampling results, and submittal of an extension request to the FFA deadlines.	
7 October 1991	Navy distributes Issue No. 24 of Environmental Clean-up News discussing new access policies for Hunters Point Annex.	
13 February 1992	Navy distributes Issue No. 25 of Environmental Clean-up News discussing fieldwork update and changes in sites under investigation. Other topics include approval of new FFA schedule, completion of a remediation air survey, IR oil recovery, and continuation of underground tank program.	
15 April 1992	Navy distributes Issue No. 26 of Environmental Clean-up News discussing a public health and environmental evaluation process being started for Operable Unit No. 2.	
24 April 1992	Navy participates in Peoples Earth Day 1992 in the Bayview/Hunters Point Community. Activities include distribution of a flyer on the status of the environmental clean-up, distribution of recent issues of Environmental Clean-up News, signing up new community members to the mailing list, and responding to general questions from the community.	
12 June 1992	Navy distributes Issue No. 27 of Environmental Clean-up News announcing a public health assessment workshop for Hunters Point Annex.	
24 June 1992	Navy and Agency for Toxic Substances Disease Registry (ATSDR) host workshop at Hunters Point Annex for U.S. Post Office and tenants of Hunters Point on the public health assessment to be completed at Hunters Point Annex.	
24 June 1992	Navy and ATSDR host community workshops at public library on the public health assessment to be completed at Hunters Point Annex.	
24 June 1992	Navy distributes Issue No. 28 of Environmental Clean-up News discussing the draft Remedial Investigation for Operable Unit No. 2. Other topics include laboratory problems which cause samples to be rejected, resampling, and contingency work underway.	
2 October 1992	Navy distributes Issue No. 29 of Environmental Clean-up News discussing a new approach to expedite the clean-up and reuse process.	
24 October 1992	Navy participates in planning workshop at Hunters Point for future use of shipyard by the arts community.	
7 November 1992	Navy conducts tour of Hunters Point for members of Mayor's Citizens Advisory Committee.	

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity	
12 November 1992	Navy gives presentation on environmental clean-up to Mayor's Citizens Advisory Committee.	
25 November 1992	Navy distributes Issue No. 30 of Environmental Clean-up News discussing the completed radiation study of Hunters Point Annex.	
1 December 1992	Navy conducts group tour of Hunters Point Annex environmental clean-up for the San Francisco Unified School District.	
3 December 1992	Navy participates in public workshop sponsored by Mayor's Citizens Advisory Committee.	
11 December 1992	Public comment period begins on Parcel A transfer process. Display ads appear in San Francisco Chronicle, Sun Reporter, and New Bayview.	
11 December 1992	Navy distributes Issue No. 31 of Environmental Clean-up News announcing public comment period on the Parcel A transfer process and the status of clean-up activities at Parcel A.	
14 December 1992	Navy participates in public workshop sponsored by Mayor's Citizens Advisory Committee.	
14 December 1992	Navy participates in community meeting sponsored by the President of the San Francisco Board of Supervisors.	
15 December 1992	Navy participates in public workshop sponsored by the Mayor's Citizens Advisory Committee.	
7 January 1993	Navy participates in public workshop sponsored by the Mayor's Citizens Advisory Committee.	
14 January 1993	Navy participates in public workshop sponsored by the Mayor's Citizens Advisory Committee.	
2 March 1993	Navy distributes Issue No. 32 of Environmental Clean-up News describing completion of Alternative Selection Reports for Operable Units 2 and 3 and a proposed interim clean-up at IR-6 (Tank Farm).	
18 March 1993	Navy participates in a meeting of the Mayor's Citizens Advisory Committee.	
2 April 1993	Navy gives presentation and tour to CORO foundation group at Hunters Point Annex.	
22 April 1993	Navy participates in panel discussion at the University of San Francisco Environmental Program.	
24 May 1993	Navy distributes Issue No. 33 of Environmental Clean-up News describing the proposed parcel approach to clean-up, the status of Parcel A, Parcels B-E, and the Site Inspection Process.	

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity	
8 June 1993	Navy gives tour of Hunters Point Annex to Southern California Fleet Energy Project.	
1 July 1993	Navy distributes Issue No. 34 of Environmental Clean-up News describing Parcel A inspection results and future clean-up activities, and preliminary assessments at other sites within Hunters Point Annex.	
8 July 1993	Navy participates in San Francisco Board of Supervisors Select Committee on Base Closures meeting.	
22 September 1993	Navy distributes Issue No. 35 of Environmental Clean-up News describing the alternative selection report submitted for Operable Unit No. 2, and the removal action proposed for IR-6 (Tank Farm). The newsletter also explained how groundwater is being handled and whether the Navy is proposing to clean up to commercial land use standards.	
22 September 1993	Public comment period begins on the Tank Farm removal action. Display ads appear in San Francisco Chronicle, Sun Reporter, and New Bayview.	
29 September 1993	Hunters Point Annex Display set up at Governor's Base Closure Task Force meeting in Oakland.	
29 September 1993	Navy participates in the Mayor's Citizens Advisory Committee workshop on Hunters Point Annex.	
5 October 1993	Navy participates in the Mayor's Citizens Advisory Committee Land Use Subcommittee meeting to discuss tank farm project.	
26 October 1993	Hunters Point Annex Display set up at Base Closure Conference in Oakland.	
27 October 1993	Hunters Point Annex Display set up at Base Closure Conference in Oakland.	
29 October 1993	Navy participates in meeting with local community leaders and EPA regarding upcoming New Bayview Committee meeting.	
12 November 1993	Navy distributes Environmental Bulletin announcing presentations by Navy, EPA, and ATSDR at New Bayview Committee meeting.	
17 November 1993	Navy makes presentation at community meeting sponsored by the New Bayview Committee.	
7 December 1993	First meeting of the Restoration Advisory Board. [Meeting cancelled because of limited attendance due to weather. Meeting rescheduled for 13 December 1993.]	
13 December 1993	Second meeting of the Restoration Advisory Board.	
15 December 1993	Navy makes presentation at community meeting sponsored by the New Bayview Committee.	

SUMMARY OF MAJOR COMMUNITY RELATIONS ACTIVITIES

Date	Activity	
5 January 1994	Third meeting of the Restoration Advisory Board.	
26 January 1994	Fourth meeting of the Restoration Advisory Board.	
23 February 1994	Fifth meeting of the Restoration Advisory Board.	

CHAPTER 4

INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION AND COMPLIANCE

This chapter describes the installation-wide environmental restoration and compliance strategy for HPA, which was closed in 1974. The environmental investigation at HPA started in 1984 (NEESA 1984). As of this writing, 58 sites have been identified at HPA (numbers 1 through 58). Forty-nine of these sites are currently designated as IR sites and 9 are designated as PA sites. To date, 22 of these sites have been investigated under an RI, 28 sites are scheduled for RI work in the future, and site inspections (SI) have been concluded at 8 sites with no further action recommended. Investigation to identify additional sites is currently being completed with the "Site Assessment". Forty-six USTs have been removed or closed in place, with most requiring further site investigation and at least 4 not requiring further action. A portion of parcel A is being negotiated for early release to the City and County of San Francisco. RI/FS work is ongoing at parcels B through E.

The strategy for determining the most effective response mechanism for contaminant sources and contaminated areas during the early stages of the restoration process at the base has been implemented on a case-by-case basis by the Navy. The BCT is currently reevaluating the earlier strategy and is developing tentative strategies based on prudent consideration of available information; the Navy is following a pre-disposition toward using presumptive remedies for sites once sufficient information is available to reach and sustain a consensus among members of the BCT. A significant strategy that is now evolving is the coordination of all investigation and remediation activities by parcel. This should allow decisions to be made that will expedite transfer of parcels, and result in the ability to characterize the parcels to the extent needed for a FOST.

4.1 PARCEL DESIGNATION AND STRATEGY

The IR and PA sites identified at HPA were grouped into five operable units (OU) in 1988. The definition of an OU was based on preliminary evaluation of the potential threat to public health and the environment, similarities in investigation or remediation, location of sites with respect to each

HPA BCP, (11:00 am) HPABCP.TXT (March 5, 1994) other, and similar chemical conditions (HLA 1988). The original schedule for RI/FSs and ROD for the five OUs in HPA is set forth in the FFA in September 1990.

In April 1992, the Navy redefined the HPA facility by creating geographic parcels. All existing IR and PA sites were divided among five such parcels — Parcels A through E. The objectives of parcelization were as follows (HLA 1992): (1) reduce the extent of logistical conflicts between various RI/FS activities at HPA (for example, health risk assessments with high uncertainty associated with overlapping OUs); (2) facilitate efficient and early implementation of measures that protect human health and environment; (3) allow for expedited land reuse and flexibility in future use of land at HPA; (4) reduce the time required to reach overall RODs; (5) allow for estimating of realistic IR Program schedules; and (5) achieve the above objectives in a resource-effective and cost-effective manner. The parcelization also allows options for acceleration and early release of cleaner parcels for civilian use. As such, the FFA schedules with the state and EPA, which were based on the OU approach, were in effect set aside in 1992. New FFA schedules based on parcels were approved on February 4, 1994.

Parcels A through E contain a total of 9 PA sites and 49 IR sites. The composition of each of these parcels is summarized below.

- Parcel A -- consists of about 90 acres of a central area and a western adjacent area that are connected by Crisp Avenue (Figure 3-1); comprises PA sites 19, 41, and 43, and parts of IR sites 45, 50, and 51.
- Parcel B -- consists of about 66 acres of northeast shoreline and lowland coast (Figure 3-1); comprises PA Site 31 and IR Program Sites 06, 07, 10, 18, 20 23, 24, 25, 26, 42, and 46, and part of IR Sites 45, 49, 50, and 51.
- Parcel C -- consists of about 77 acres of northeast central shoreline and lowland coast (Figure 3-1); comprises IR Sites 27, 28, 29, 30, 57, and 58, and part of IR Sites 45, 49, and 50.
- Parcel D -- consists of about 128 acres of southeast central shoreline and lowland coast (Figure 3-1); comprises PA Sites 16, and 48, and IR Sites 08, 09, 17, 22, 32, 33, 34, 35, 36, 37, 44, 53, 55, and part of IR Sites 38, 39, 45, 50, and 51.

• Parcel E -- consists of about 135 acres of south shoreline and lowland coast (Figure 3-1); comprises PA Sites 40, 47, and 54, and IR Sites 01/21, 02, 03, 04, 05, 11, 12, 13, 14, 15, 52, and 56, and part of IR Sites 38, 39, 45, 50, and 51.

4.1.1 Sequence of Parcels, IR Program Strategy

A comprehensive parcel strategy needs to be refined by the BCT. The present strategy consolidates PA and IR sites into parcels for investigation and cleanup. The other elements of the strategy include the following:

- Parcel A will be released for civilian use preferably through an expedited transfer document.
- Small- to medium-scale removals or interim actions at several PA or IR sites have been proposed for implementation in fiscal year 1994.
- Radiation investigations have been included into the current proposed RI/FS schedules.
- The ecological risk assessment, air sampling, tidal influence testing, hydrogeology assessments, and monitoring programs involve an installation-wide approach; results will be integrated in the parcelbased RI/FSs due mid 1995 to mid 1996.
- The UST sites will be investigated along with adjacent sites in the IR Program in the RI/FS process.
- FUDS including Buildings 815, 820, 830 and 831 will be investigated along with other Parcel E sites.
- Sites requiring further investigation resulting from the Facility Assessment will be incorporated in their respective parcel investigations.

4.1.2 Innovative Strategies to Expedite Cleanup

In addition to the parcel strategy discussed above, the environmental response strategy includes several innovative methods to expedite the IR Program:

- To meet tight schedules, RI work at most IR sites will proceed based upon work plan recommendations presented both verbally and in writing to agencies in meetings.
- Data Presentations will be given directly to the BCT rather that in a submission of an RI report. This will have an estimated time savings of 6 to 9 months by avoiding the wait for submission of an SI report, review of the SI report, and submission of a new work plan.
- Submission of Alternative Selection Reports to identify early or interim actions. This can result in a time savings of 2 to 3 years.
- Use of an expedited review period for documents. Can result in a 30 to 45 day savings for each document.
- Division of facility into parcels, as discussed above, reduces the number of documents needed and uses time and resources more efficiently as compared to the original OU organization. Can result in a time savings of 1 to 2 years.
- The FS and Proposed Plans will be submitted concurrently. Estimated time savings of 8 to 12 months.
- Conducting Investigation by Excavation, rather than delay excavation until after sampling and analysis to determine depth and extent of contamination. Estimated time saving of 1 year for each site.
- Extensive use of a hydropunch instead of a drill for groundwater investigations. Estimated time savings of 1 to 2 years.
- Changing the work plan without stopping work by issuing a Notification of Variance, rather than stopping to revise the work plan.

4.1.3 Early Actions Strategy

Sometimes during the course of conducting an RI/FS at a site it soon becomes clear that a particular area will require some type of cleanup action because levels of contaminants exceed regulatory limits or present an immediate risk to human health or the environment, even though an RI or FS has not been completed. If a technology already is known that has been demonstrated to be successful, the BCT may decide to conduct an early action at the site. Often times the selected early action is excavation and removal. To date, excavation and removal early actions have been conducted at several sites, and other early actions have been proposed as listed below:

•	IR-6	Removal of soil and associated groundwater below the former location of the tank farm.
•	Group 5	Removal of floating product at IR-12 and 15, and IR-12, and removal of soil hot spots at Sites IR-12, and 13, along with debris and soil at IR-15.
•	Exploratory Excavations	At various IR Program sites in the PA phase, exploratory excavations are proposed to address removal of limited volumes of soil that has evidence of staining.
•	Steamlines	Removal of those steam lines with fluids (oil and water) has been recommended along with removal of readily accessible friable asbestos.
•	Sandblast Grit	The consolidation and isolation of the sandblast grit from around the facility in one location has been recommended.
•	Storm Drain Cleanout	The cleanout of these sites is proposed to reduce the potential for migration of chemicals found in the sediment in the storm drain catch basins. In addition, the repair of the storm drain system is proposed in those areas of poor integrity, to minimize the potential for migration.
•	IR-09	An equipment removal at IR-9 is currently under bid proposal.
•	IR-03	A treatability study has been proposed to determine methods to treat waste oil in place.
•	IR-01, IR-02	A FS has been recommended to identify technologies that would contain the contamination where it is and prevent its migration or exposure to humans or the environment.

4.1.4 Remedy Selection Approach

Remedies will be selected in accordance with statutory and NCP criteria. The HPA BCT will involve all interested parties in the remedy selection process. Particular attention will be given to the following during the evaluation of alternatives:

- Applicable or relevant and appropriate requirements (ARAR). Applicable requirements for anticipated remedial actions will be identified through the BCT. The effectiveness of alternatives in reducing concentrations of contaminants to chemical-specific ARARs will be evaluated. Waivers will be considered where treatment to standards is technically impractical.
- Land use/risk assessment. Risk assessment protocols will incorporate future land use in exposure scenarios.
- Basewide treatment facilities. Treatment facilities will be considered that can treat
 wastes of similar nature that occur at several sites at HPA, (for example, stabilization
 of sand blast grit).
- Applicable remedies. The presumptive remedy selection approach advocated by EPA will be applied in selected cases. Focused FSs will be developed where appropriate.
- Corrective Action Management Units (CAMU) regulation. RCRA regulations have been modified to allow more extensive use of on-site treatment technologies without a RCRA permit if a process is deemed by EPA and the State to be a CAMU.
- POL remedies. Source-specific actions for petroleum, oils, and lubricants (POL) will be addressed under the State UST programs because POL releases at 28 sites may have occurred, mostly as a result of leaking USTs, the steam lines, and fuel lines. Large-scale groundwater remedial actions as a result of leaking USTs will be incorporated into the appropriate zone groundwater actions if practicable under the IR program.

The BCT will hold project team meetings to discuss conceptual remedies as early in the RI stage for each parcel as data warrants. The goal is make the FS integral to the RI to the extent possible. This should expedite the culmination of the process in a ROD.

4.2 COMPLIANCE STRATEGY

This compliance strategy is based on the status of compliance-related activities conducted at HPA as could be determined in the bottom up survey conducted for this BCP. Currently, overall compliance programs that establish a framework for tracking environmental compliance are not described in any reports, except for the hazardous waste management plan (WESTDIV 1992). Such programs will be developed for each of the categories listed below.

4.2.1 Storage Tanks

Phase I and Phase II tank closures and removals were completed in 1991 and 1993, respectively, and are described in Section 3.2.1. It is believed that all abandoned USTs, except those that may exist at the FUDS, have been removed or closed in place as a result of the UST activities. ASTs have been removed under removal actions such as at the Tank Farm (IR-06) and Tank S-505, and additional ASTs have been found as listed in Table 3-5. If any additional ASTs are found at HPA, they will be addressed under the IR program. An action item for the BCT is to identify all USTs or ASTs currently in use at HPA and prepare a plan to monitor their compliance with applicable regulations.

4.2.2 Hazardous Materials/Waste Management

In addition to the hazardous waste management plan (WESTDIV 1992) the strategy for hazardous materials/waste management will include two parts, at a minimum:

- An operations, inspection, and disposal plan will be prepared for Buildings 810 and 814, which are used to store hazardous wastes generated by the IR Program and some Navy personnel.
- An assessment needs to be conducted of hazardous waste handling and disposal practices by private tenants at HPA. A project to accomplish this is currently being conducted by a Navy contractor. The results of this project will be documented in the Site Assessment Report, Potentially Contaminated Sites, Parcels B, C, D, and E. Naval Station Treasure Island, Hunters Point Annex. This report is due to be published on March 11, 1994.
- An assessment of HPA tenants at HPA to determine their compliance with hazardous materials/waste management regulations, followed by preparation of a plan to insure compliance. This has been made a BCT action item.

A facility assessment of Buildings 810 and 814 will be conducted to identify potential for releases of hazardous substances to the environment.

4.2.3 Solid Waste Management

A compliance strategy for solid waste management requires identification of existing practices followed by both Navy and private tenants at HPA. Existing practices must be compared to federal, state and local regulations to determine compliance. Specific recommendations must be developed to bring solid waste handling and disposal into compliance, if any violations of federal, state, and local regulations identified. A project to survey the solid waste management practices of Navy and private tenants at HPA a plan to insure compliance has been added as an BCT action item.

4.2.4 Polychlorinated Biphenyls

Most PCB-contaminated equipment (equipment with greater than 50 ppm PCBs) has been removed from HPA, and WESTDIV has budgeted funding to continue removing PCB-contaminated equipment in 1994 (Corpos 1994). All removal actions will be compared to a baseline facility-wide inventory of PCB-contaminated equipment to verify the completeness of the PCB removal program. Any equipment with greater than 50 ppm PCBs that remains will be identified, and a schedule for its removal will be prepared. In addition, discussions with the state should continue to determine whether California regulations that define PCB-contaminated equipment as that containing greater than 5 ppm PCBs could require removal of more electrical equipment. A final document will be created that describes the methods used to inventory PCB and PCB-contaminated electrical equipment, identifies any additional PCB equipment, and lists the status of each piece of such equipment. BCP action items include determining whether equipment with greater than 5 ppm PCBs should be removed, and preparing a PCB response plan.

4.2.5 Asbestos

An asbestos compliance strategy has been prepared for HPA. The memorandum of understanding (WESTDIV 1994) states in Section 3.(h)(iii) that asbestos-containing materials shall be removed or encapsulated when there is damaged or accessible friable asbestos-containing materials or asbestos-containing materials that pose a threat to human health and the environment prior to transfer of a parcel. WESTDIV has budgeted funding for assessment of asbestos in 1994, and for asbestos

abatement in 1995 and 1996 (Corpos 1994). Ongoing asbestos inventories will be completed and a strategy for abatement of asbestos hazards will be developed in an overall asbestos abatement strategy. Time frames and milestones for monitoring compliance will be included in the strategy. A BCT action item has been added for the preparation of an asbestos inventory and an asbestos abatement plan.

4.2.6 Radon

A radon strategy will be developed for HPA including a schedule of milestones to track compliance. Overall the strategy will include schedules for screening, assessment, corrective action, and mitigation. WESTDIV has budgeted funding for radon abatement in 1995 (Corpos 1994)

4.2.7 RCRA Facilities

The site assessment as described in Section 4.2.2 will identify solid waste management units (SWMU) that may have resulted from activities conducted by tenants property lessees at HPA during the last 10 years. If SWMUs are discovered, a strategy for addressing their cleanup will be prepared.

4.2.8 NPDES Permits

Maintain the existing facility NPDES permits by submitting reports and performing monitoring tests and reporting results as required. Any other discharges by tenants will be discovered identified by the "Site Assessment" and reported to the EPA and the State.

The NPDES requires that an illicit discharge survey be conducted to determine if any non-stormwater discharges are entering the stormwater system, and specifies that any illicit discharges found be discontinued by 1 October 1992. The Navy conducted an illicit discharge survey, and determined that there are several non-stormwater discharges entering the stormwater system at HPA. These discharges are documented in the *Draft Naval Station Treasure Island*, *Hunters Point Annex*, *San*

Francisco California, Stormwater Pollution Prevention Plan, PRC Environmental Management, Inc. and James M. Montgomery Consulting Engineers, January 5, 1993 (Olsen. 1994).

4.2.9 Oil/Water Separators, Sumps

No oil/water separators exist at HPA. There are many sumps within HPA buildings, but there is no program aimed specifically at identifying and investigation sumps. Currently, sumps are investigated whenever located in the course of work under the IR program. As an action item, the BCT should determine whether a separate program aimed at sumps is needed.

4.2.10 Lead-Based Paint

No strategy is required, as the DoD policy for lead-based paint at BRAC properties is applicable to family housing (Corpos 1994b).

4.2.11 Air Pollution

No strategy is required, because there are no air emissions at HPA.

4.2.12 Drinking Water

A monitoring plan for lead and copper in drinking water at HPA was prepared by Radian Corporation dated November 22, 1993 (Olsen. 1994). The results of this monitoring effort will be evaluated when received, and an action plan prepared if violations of lead and copper levels are found.

4.3 NATURAL AND CULTURAL RESOURCES STRATEGY

This section presents the compliance strategy to better define the status of natural resources at HPA. Resource data to be determined are summarized in Table 3-7.

4.3.1 Threatened and Endangered Species

For HPA, field survey reports developed under the IR program will be reviewed upon completion to confirm the presence of any threatened or endangered species on HPA that have not yet been identified. The field survey reports are a compilation of data from earlier field observations by WESTDIV contractors. They contain information on species identified in aquatic, terrestrial, and wetlands habitats, and will be incorporated into the ecological risk assessment.

4.3.2 Rare or Sensitive Habitat

Field survey reports prepared under the IR Program will be reviewed upon completion to confirm the presence of any rare or sensitive habitat at HPA.

4.3.3 Wetlands

Wetlands are adequately defined, as described in Section 3.3.3 and shown in Figure 3-4; and no further steps are planned.

4.3.4 Surface Waters

Surface waters are adequately defined, as described in Section 3.3.3 and shown Figure 3-4; and no further steps are planned.

4.3.5 Floodplains

The USGS map (1980) indicates that areas of HPA are at or above sea level and are not within any known floodplain. As discussed in Chapter 1, 442.90 acres of HPA is under water in San Francisco Bay.

4.3.6 Migratory Birds

The presence of migratory birds has been confirmed at HPA by Audubon Society personnel (PRC 1993c) as described in Section 3.3.6 and shown Figure 3-4. This will be further confirmed by personnel from the California Academy of Sciences.

4.3.7 Fisheries

Fisheries are adequately defined as described in Section 3.3.7 and shown Figure 3-4; and no further steps are planned.

4.3.8 Marine Mammals

Marine mammals have been reported to be present as described in Section 3.3.8 and section Figure 3-4. Additional surveys will be reviewed to confirm the presence of marine mammals at HPA.

4.3.9 California Special Animals

Various species listed as California Special Animals have been identified at HPA as described in Section 3.3.9 and shown Figure 3-4. Terrestrial survey reports prepared under the IR Program will be reviewed upon completion to confirm the presence of California special animals at HPA.

4.3.10 California Special Plants

Plant species listed as California Special Plants have been identified as described in Section 3.3.10 and shown on Figure 3-4. Terrestrial survey reports being developed under the Installation Restoration Program will be reviewed upon completion to confirm the presence of California Special Plants at HPA.

4.3.11 Plants or Animals of Public Interest

Species lists provided in terrestrial survey reports being developed under the IR Program along with species lists provided by previously mentioned sources will be reviewed upon completion to confirm the presence of plants or animals of public interest at HPA.

4.3.12 Cultural Resources

The disposal of Drydocks No. 2, No. 3, and No. 4 and the ordnance and optical building will require compliance with Section 106 of the National Historic Preservation Act (16 U.S.C. §470f). The Navy has initiated the consultation process mandated by the regulations (36 CFR part 800) implementing section 106 for the disposal of Drydock No. 4. The Navy further proposes to initiate compliance with section 106 as the other properties become available for reuse.

4.3.13 Archaeological Resources

Because there are no significant archaeological resources at HPA, there is no strategy needed.

4.4 COMMUNITY INVOLVEMENT STRATEGY

A CRP dated January 1989 has been prepared and implemented at HPA to facilitate ongoing communication between the Navy and the community regarding IR Program activities planned or underway at HPA. The CRP is designed to provide a blueprint for monitoring and responding to community concerns and information needs and involving the community in the IR Program decision-making process.

Although the CRP provides an effective tool for ensuring community involvement, the planned closure of the facility, coupled with the five-point plan to accelerate the property cleanup, closure, transfer, and reuse process, has added a new dimension to community involvement. Of key interest to the community are employment opportunities related to the cleanup, and ensuring that potential property reuse options will result in the future economic viability of the local community. Evaluation

of potential reuse plans will impact the IR Program by driving the cleanup levels. Therefore, the scope of community involvement and information exchange needs to be expanded to include reuse planning activities. The following outline presents a community relations strategy to maintain and strengthen the flow of information between the Navy and community stakeholders (for example, local businesses, environmental and citizen groups, elected officials, developers, the media, and neighborhood residents). Components of the community involvement strategy presented below comply with community involvement activities required by CERCLA and are consistent with the five-point plan. The following activities are required under CERCLA or directed by the five-point plan:

- After the feasibility study for each parcel is completed, the following activities must take place:
 - 1. **Develop and distribute proposed plan fact sheets** to the community (preferably 2 weeks prior to the public meeting)
 - 2. Conduct a public comment period on the proposed plan for at least 30 days (and an additional 30 days upon request). The HPA FFA allows for a 40-day comment period.
 - 3. Hold a public meeting 2 weeks from the start of the public comment period
 - 4. Place a public notice in local papers of general circulation 2 weeks before the meeting announcing completion of the proposed plan; the start of the public comment period; and the date, time, and location of the public meeting.
- Maintain and update the information repository and administrative record. In response to community requests, an information repository and administrative record have been established in two locations.
- Issue a public notice in local papers of general circulation announcing planned removal actions
- Maintain a community mailing list
- Establish a restoration advisory board (RAB) The RAB for HPA was established on December 13, 1993. The Navy is currently soliciting additional members through a public notice in local newspapers.

The following activities will be considered by the BCT to facilitate completion of the five point plan:

- Update the existing CRP Specifically, the following sections of the CRP should be updated: Section 3.2, "Issues and Community Concerns;" Section 5.0, "Techniques to Accomplish Community Relations Objectives;" and Section 6.0, Schedule of Community Relations Activities." In addition, Section 7.0 of the CRP addresses the Technical Review Committee (TRC). This section will need to be modified and updated to reflect the reformation of the TRC into the RAB. Because the RAB is intended to be a vehicle for community involvement and input, the Navy's approach to establishment and operation of the RAB needs to be addressed in the CRP.
- Establish points of contact As it will be very difficult for the Base Transition Coordinator (BTC) to monitor and respond to all community concerns and information needs at HPA, a team of contacts should be established. Community concerns, inquiries, and issues would be directed through that team to ensure the information is disseminated to the BCT and other appropriate individuals and that the Navy communicates a consistent message to community members. The team would consist of the BEC, a community relations specialist, and a land-use planning expert. Team members will share responsibility for attending community cleanup and reuse meetings and disseminating information, and should meet on a regular basis to exchange information.
- Conduct open houses and workshops As special community concerns arise (for example, cleanup schedules as they relate to reuse needs), workshops or open houses may provide useful forums for the exchange of information on an informal basis.
- Prepare and distribute fact sheets on ongoing cleanup activities and associated timelines The fact sheets would be prepared and distributed to persons in the community mailing list to describe major milestones (for example, completion of major studies, including EBS and identification of property parcels available for leasing or transfer) and the overall process associated with property cleanup, closure, and reuse.
- Attend community meetings regarding the cleanup, closure, and reuse process
 -Ensuring that cleanup levels are consistent with the intended future use of parcels will
 be a challenging task and will require close coordination among all players. An
 important step toward achieving ongoing coordination and integration will involve
 attendance at key community and reuse meetings. A designated community relations
 specialist should support the Navy by tracking meetings, selecting key meetings that
 require attendance, attending those meetings, and debriefing the BCT following the
 meeting. This will help to ensure that all the appropriate players are kept informed of
 key issues that may impact cleanup activities.
- Update mailing list to include more neighborhood residents
- Integrate RAB as a forum for community relations issues

- Integrate proactive measures to result in contracts and jobs for the neighborhood residents
- Implement training opportunities for neighborhood residents to qualify for IR work at HPA
- Implement meaningful hiring practices for contracting firms to employ or subcontract with the neighborhood residents and businesses
- Train Navy and contracting personnel to better communicate and relate to community residents

CHAPTER 5

ENVIRONMENTAL PROGRAM MASTER SCHEDULES

This chapter presents the HPA Master Schedule of anticipated activities for environmental programs.

5.1 ENVIRONMENTAL RESTORATION PROGRAM

The schedules for completion of IR Program work are specified for each parcel in the FFA. Figures 5-1 and 5-2 are Gantt charts showing the agreed-upon deadlines for IR Program work in parcels B, C, D, and E. The radiological investigations have been included in the IR Program and will be completed under the same schedules. A schedule for completion of IR Program work at parcel A is not available because the schedule is under negotiation. Figure 5-3 shows a gantt chart for the completion of the Ecological Risk Assessment at HPA. Figure 5-4 shows a Gantt chart with the proposed schedule for remedial design and action for Parcels B, C, D, and E which would result from the agree upon deadlines for IR Program work. The last figure, 5-5, displays the proposed schedules for removals and interim remedial actions considered as acceleration opportunities. To clarify the relationship between individual IR sites and the designated parcels at HPA, Table 5-1 is included. The Navy has prepared cost estimates for the completion of IR Program work at each of the 58 IR and PA sites currently identified. It is currently projected that approximately \$260 million dollars will be needed to complete IR Program work by the year 2006.

5.2 COMPLIANCE PROGRAMS

WESTDIV has budgeted approximately \$25 million for completion of compliance programs at HPA by January, 1997. A table showing projected budgets for each of the compliance programs is provided in Appendix A.

5.3 NATURAL AND CULTURAL RESOURCES

Because no prehistoric sites have been discovered, and further actions regarding the bridge crane and dry dock no. 4 are not needed, there are no budget estimates or schedules addressing further actions regarding cultural resources.

5.4 MEETING SCHEDULE

Meeting schedules for various HPA groups are not available. The BCT will consider preparing a list of meetings for groups like the BCT, the RAB, the project team, and others.

PARCEL E AND C FFA SCHEDULE

					Qtr 4, 1994	Qtr 1, 1995	Qtr 2, 1995	Qtr 3, 1995	Qtr 4, 1995	Qtr 1, 1996	Qtr 2, 1996		Qtr 4, 1996	Qtr 1, 1997	9
ID					Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May	Jun Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	ADE
1	PARCEL B	410d	10/25/94	5/20/96				ļ							4
2	Draft RI Report	183d	10/25/94	7/6/95											4
3	Draft PHEE	183d	10/25/94	7/6/95				2							1
4	Draft FS Report	132d	3/7/95	9/6/95											
5	Draft Proposed Plan	42d	7/11/95	9/6/95		·	,								
6	Draft Final RI Report	66d	7/6/95	10/5/95					2	···					
7	Draft Final PHEE	70d	10/5/95	1/10/96						// //					
8	Draft Final Proposed Plan	58d	10/13/95	1/2/96											
9	Draft Final FS Report	64d	9/7/95	12/5/95				UIIIII.							
10	Final Proposed Plan Published	10d	12/11/95	12/22/95	<u>.</u>				7/1		<u> </u>				
11	Public Comment on Proposed Plan	7d	12/26/95	1/3/96					2	3	<u> </u>			,	
12	Draft Record of Decision (ROD)	50d	1/3/96	3/12/96											'
13	Final ROD	19d	4/10/96	5/6/96							WHIIII.				'
14	Final ROD Approval	10d	5/7/96	5/20/96	٠.				<u> </u>		2 3				'
15	PARCEL C	408d	1/23/95	8/14/96		-	KAS (ELLIPSIA)		1			—			
16	Draft RI Report	180d	1/23/95	9/29/95											
17	Draft PHEE	180d	1/23/95	9/29/95											
18	Draft FS Report	176d	3/31/95	12/1/95											
19	Draft Proposed Plan	43d	10/4/95	12/1/95											
20	Draft Final RI Report	65d	9/29/95	12/28/95							<u> </u>				
21	Draft Final PHEE	65d	9/29/95	12/28/95				<u> </u>		<u> </u>					
22	Draft Final Proposed Plan	30d	1/11/96	2/21/96		٠.									
23	Draft Final FS Report	66d	12/1/95	3/1/96		-									
24	Final Proposed Plan Published	5d	3/21/96	3/27/96							2				
25	Public Comment on Proposed Plan	41d	3/28/96	5/23/96				<u> </u>	<u> </u>						
26	Draft Record of Decision (ROD)	50d	3/28/96	6/5/96											
27	Final ROD	19d	7/5/96	7/31/96								WIIIII.			
28	Final ROD Approval	10d	8/1/96	8/14/96			<u> </u>	<u> </u>		<u> </u>		7/2			

FIGURE 5-1

IR PROGRAM SCHEDULE PARCELS B AND C HUNTERS POINT ANNEX

Critical Milestone • " Summary

PARCEL D AND E FFA SCHEDULE

					Qtr 2, 1995	Qtr 3, 1995	Qtr 4, 1995	Qtr 1, 1996	Qtr 2, 1996	Qtr 3, 1996	Qtr 4, 1996	Qtr 1, 1997	Qtr 2, 1997	Qtr 3, 1997	Q
				Scheduled Finish	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct
1	PARCEL D	408d	4/25/95			L.						<u> </u>			
2	Draft RI Report	183d	4/25/95	1/4/96											
3	Draft PHEE	183d	4/25/95	1/4/96				I							
4	Draft FS Report	135d	8/31/95	3/6/96		Y IIIIIII									
5	Draft Proposed Plan	156d	8/31/95	4/4/96		Y////////			1						
6	Draft Final RI Report	66d	1/4/96	4/4/96					1						
7	Draft Final PHEE	100d	1/4/96	5/22/96											
8	Draft Final Proposed Plan	37d	4/12/96	6/3/96											
9	Draft Final FS Report	78d	3/6/96	6/21/96											
10	Final Proposed Plan Published	16d	6/7/96	6/28/96					VIIII						
11	Public Comment on Proposed Plan	56d	6/21/96	9/6/96											
12	Draft Record of Decision (ROD)	90d	6/28/96	10/31/96					ŧ						
13	Final ROD	19d	10/7/96	10/31/96											
14	Final ROD Approval	10d	11/1/96	11/14/96							7//2				
15	PARCEL E	455d	5/16/95	2/10/97				1				-			
16	Draft RI Report	198d	5/16/95	2/15/96											
17	Draft PHEE	198d	5/16/95	2/15/96	VIIIIIIIIII										
18	Draft FS Report	136d	11/3/95	5/10/96											
19	Draft Proposed Plan	41d	3/15/96	5/10/96				VIIII							
20	Draft Final RI Report	64d	2/15/96	5/14/96					uuuuuun.						
21	Draft Final PHEE	64d	2/15/96	5/14/96											
22	Draft Final Proposed Plan	30d	6/19/96	7/30/96											
23	Draft Final FS Report	65d	5/10/96	8/8/96						in and a second					
24	Final Proposed Plan Published	11d	8/14/96	8/28/96						7///					
25	Public Comment on Proposed Plan	7d	8/28/96	9/5/96						Ø			1		
26	Draft Record of Decision (ROD)	60d	9/5/96	11/27/96											
27	Final ROD	19d	12/31/96	1/24/97			T					UIIIII			
28	Final ROD Approval	10d	1/28/97	2/10/97	,							VZE.			

FIGURE 5-2

IR PROGRAM SCHEDULE PARCELS D AND E HUNTERS POINT ANNEX

Critical Milestone Summary Summary

ECOLOGICAL RISK ASSESSMENT SCHEDULE

		T			Qtr 4, 1993		Qtr 2, 1994	Qtr 3, 1994	Qtr 4, 1994	Qtr 1, 1995	Qtr 2, 1995	Qtr 3, 1995	Qtr 4, 1995	Qtr 1, 1996	٩
ID	Name	Duration	Scheduled Start	Scheduled Finish	Oct Nov D	ec Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr
1	ECOLOGICAL RISK ASSESSMENT	411d	10/1/93						ı						
2	Phase 1A Work	239d	10/1/93	8/31/94											
3	Phase 1A Data Presentation	1d	4/30/94	5/2/94											
4	Phase 1B Work Plan Preparation	67d	5/31/94	8/31/94											
5	Phase 1B Work	172d	9/1/94	4/28/95				ZIIIIII							

Phase IA Work:

This task will define the effects of potential contamination from HPA on the surrounding ecological system. Phase IA will result in a qualitative evaluation of potential environmental impacts that may result in exposure, and identifications of data gaps to be filled in Phase IB.

Phase IA Data Presentation:

The data presentation is a progress meeting to present the regulatory agencies with tasks completed to date, discuss methodology of completed task, discuss proposed methodologies for future tasks, and encourage exchange of information.

Phase IB Work Plan:

The purpose of this task is to prepare a work plan that presents recommendations for future work, addressing data gaps from Phase IA.

Phase IB Work:

Collect data and prepare a quantitative environmental risk assessment report.

FIGURE 5-3

IR PROGRAM SCHEDULE ECOLOGICAL RISK ASSESSMENT SCHEDULE HUNTERS POINT ANNEX

Critical	Noncritical	Progress	Milestone	•	Summary	4
Critical	Noncritical	Progress	Milestone	•	Summary	

CHAPTER 6

ISSUES TO BE RESOLVED

This chapter summarizes the strategy to resolve technical and other issues that exist at HPA. These issues include the usability of historical data; information management; data gaps; natural (background/ambient) levels of elements and compounds in soil, groundwater, surface water, and sediments. The BCT will consider several additional issues as work at HPA progresses. The titles of other sections that could be added by the BCT are shown starting with section 6.5. Most of these sections are suggested by BRAC guidance as possible topics for the BCT to consider.

6.1 DATA USABILITY

This section summarizes unresolved issues pertaining to the validity of using historical data sets in the base environmental restoration program. The primary issue is to ensure for the future, when data needs will be more critical and specific, that the collection of data will be of an appropriate quality. The required data quality should always be specified by the data quality objectives (DQO). These DQOs are qualitative and quantitative statements developed by data users to specify the quality of data needed from a particular data collection activity to support specific decisions or regulatory actions. The three-stage process for developing DQOs is based on the following:

- Identifying project objectives.
- Specifying the data necessary to meet project objectives.
- Identifying and describing the methods that will yield data of acceptable quality and quantity to support the required decisions.

The results of the DQO development process should include: appropriate field techniques; appropriate analytical methods and quantitation limits; and measurement objectives for precision, accuracy, representativeness, completeness, and comparability (PARCC).

HPA BCP, (11:00 am) HPABCP.TXT (March 5, 1994) Data validation, a systematic process for reviewing and qualifying data against a set of criteria, is performed to ensure that the data are adequate for their intended use. This is accomplished by reviewing and evaluating all analytical data for their PARCC parameters using EPA guidelines.

6.1.1 BRAC Cleanup Team Action Items

For data usability, the following items are to be considered:

- Historical analytical data generated by contractors prior to PRC or Harding Lawson Associates, Inc.'s (HLA) involvement at HPA should be given serious consideration before using. Evaluations of these data are not available. Review of the Confirmation Study, Verification Step, Hunters Point Naval Shipyard (Disestablished), March 19, 1987 (Confirmation Study Report) indicates that validations of these data were not conducted. These analytical data should not be used in quantitative risk assessment but can be used in qualitative measures.
- Sample data collected at HPA during Phase 2A which did not meet the project data quality objectives should be used cautiously. These samples were recollected, analyzed by Contract Laboratory Program (CLP) methods, and validated in accordance with EPA guidelines. These new data are of acceptable quality and can be used in both qualitative and quantitative site evaluations.
- Quality assurance procedures developed in 1988 are currently being followed. These
 procedures must be reexamined to determine whether updating of the DQOs is
 required.
- Appropriate DQOs must be established for future sampling/field activity to be conducted at HPA. The DQOs must be developed based on needs and requirements. The DQOs are to identify the required detection limit, precision and accuracy criteria, and the intended use of the data.

6.1.2 Rationale

Analytical data collected prior to investigations conducted under the CLEAN contract are of unknown quality. These data were collected for use in qualitative site evaluations and have not been used for quantitative evaluations, such as risk assessment and comprehensive remedial action planning. No evidence exists that the data quality objectives, including the PARCC parameters, had been established for analytical data before the sampling and analysis were performed. Information which is

required to evaluate the data for accuracy and precision, such as spikes, duplicates, and blank sample results, are not available in the Confirmation Study Report. It does not appear that analytical data validation and data quality assessment had been performed. The primary information available on the historical data are the sampling procedures, analytical methods, and monitoring well or boring locations that were sampled. Based on this knowledge, and without performing a formal data quality assessment, it is concluded that the historical analytical data are suitable for use in qualitative site evaluation, and are not suitable to be used in the quantitative measures.

Data collected between October 8, 1990, and February 1991, were not analyzed according to the requested CLP protocols. Laboratory nonperformance discovered in November 1990, included exceeding the required holding times, difficulties in providing data in acceptable electronic format as required, improper procedures in violation of CLP, and numerous other laboratory quality control problems. Immediate actions taken to correct these problems included selection of new analytical laboratories and assessment of the data usability. Validation of these data determined that the data quality was not defensible, thus resulting in rejection of the data. Resampling at some of these locations was conducted. All samples were collected according to the procedures described in the Navy-approved field sampling plan. Samples were analyzed by newly-contracted analytical laboratories using EPA approved methodologies such as CLP methods, in accordance with the Navy-approved quality assurance project plan. Data validation conducted in accordance with EPA guidelines indicated laboratory deliverables and quality of the new data have been satisfactory. The new data can be used in both qualitative and quantitative site evaluations.

6.1.3 Status/Strategy

- DQOs must be developed for future field/sampling activities. These objectives must be based on project needs and requirements.
- Historical data collected by contractors prior to the CLEAN contract can be used for qualitative measures.
- Data collected during Phase 2A that could not be validated should be used cautiously. Much of these data were resampled, reanalyzed, and validated. The new data are acceptable for both qualitative and quantitative site evaluations.

6.2 INFORMATION MANAGEMENT

This section summarizes unresolved issues pertaining to data management and the format and method used to present it.

6.2.1 BRAC Cleanup Team Action Items

- Develop a format for data input that will be user friendly and adhere to established guidelines for data reporting, validation and quality control.
- Decide upon the type of software and hardware needed to present the data in a graphic format which would be used to evaluate potential contaminant scenarios.
- Develop a technical memorandum and cost analysis that will allow the BCT to evaluate various software systems to present the data in an easily accessible graphic format.

6.2.2 Rationale

Field measurements, observations, and analytical data can contribute to the completion of site characterizations and risk assessments by filling data gaps. Current and future data from each data collection system (for example, field laboratories, field screening techniques, and graphic information systems) are critical to the completion of all site characterization efforts, comprehensive conceptual model development, risk assessments, and ultimately the selection of remedial actions to protect human health and the environment.

6.2.3 Status/Strategy

The strategy for data management will be as follows:

 The Navy will gather all historical and current analytical field data and data for computer aided drafting and design (CADD) and evaluate its useability for graphic presentation.

- The Navy will purchase a geographic information system (GIS) to be used by the BCT for evaluation and presentations to the BCT and the community.
- The Navy will maintain the database for input to the graphic information presentation system

6.3 DATA GAPS

This information will not be included in this submittal, pending completion of remedial investigations. Data gaps will be determined as part of the feasibility study process.

6.4 BACKGROUND LEVELS

Background levels of contaminants, which are required for baseline risk assessment computations, have not yet been established at HPA because of three unresolved issues described below.

The first issue is that HPA is composed of multiple soil types, primarily serpentinite bedrock, serpentinite-derived fill, nonserpentinite fill, industrial fill, Bay Mud, and undifferentiated sands. Because of this, background levels vary widely from IR site to IR site. Also, the serpentinite contains naturally occurring high levels of arsenic, beryllium, nickel, chromium, cobalt, magnesium, and asbestos. Laboratory errors from Phase 2A data are a second issue, in that some data sets contained errors in concentrations by a factor of 100 or more. The errors resulted from nonvalidated data as described in Section 6.2.1 above. A third issue is anthropogenic (man-made) constituents due to wide-spread industrial activities at and around HPA. These activities include an industrial landfill, a tank farm, a power plant, aboveground and underground storage tanks, a scrap yard, a transformer and PCB storage yard, a battery and electroplating shop, and paint shops. Off-site sources include civilian residential and industrial activities in surrounding areas. These issues complicate the establishment of background levels of metals and organics.

6.4.1 BRAC Cleanup Team Action Items

The BCT should meet and prepare a written agreement specifying the methods to be used at HPA to determine background levels of chemical constituents at. The BCT is currently negotiating such an agreement on this issue, and is close to resolution.

6.4.2 Rationale

Background levels of metals in soil, groundwater, surface water, and sediments must be determined to characterize the extent of contamination, to conduct a risk assessment, and to establish cleanup levels. These background values must be representative of both naturally occurring and human sources.

6.5 CONSTRAINED FUNDING IMPACTS ON ENVIRONMENTAL RESTORATION SCHEDULES

As discussed in Chapter 5, funding availability issues have arisen from the diversion of base closure funds by recent congressional actions. Current schedules presented in the BCP in Chapter 5 reflect the unconstrained budget, which has been provided in Appendix A, Table A-1. However, the budget shortfall resulting from the reduction in funding in FY 94 will force a change in the schedules.

6.5.1 BRAC Cleanup Team Action Items

Negotiation of new schedules for environmental restoration work reflecting the constrained FY 94 budget is an action item for the BCT.

- 6.6 RISK ASSESSMENT
- 6.7 BASE-WIDE REMEDIAL ACTION STRATEGY
- 6.8 INTERIM MONITORING OF GROUNDWATER AND SURFACE WATER

6.9	EXCAVATION OF CONTAMINATED MATERIALS
6.10	PROTOCOLS FOR REMEDIAL DESIGN REVIEWS
6.11	CONCEPTUAL MODELS
6.12	CLEANUP STANDARDS
6.13	INITIATIVES FOR ACCELERATING CLEANUP
6.14	REMEDIAL ACTIONS
6.15	REVIEW OF SELECTED TECHNOLOGIES FOR APPLICATION OF EXPEDITED SOLUTIONS
6.16	HOT SPOT REMOVALS
6.17	IDENTIFICATION OF CLEAN PROPERTIES
6.18	OVERLAPPING PHASES OF THE CLEANUP PROCESS
6.19	IMPROVED CONTRACTING PROCEDURES
6.20	INTERFACING WITH THE COMMUNITY REUSE PLAN
6.21	BIAS FOR CLEANUP INSTEAD OF STUDIES
6.22	EXPERT INPUT ON CONTAMINATION AND POTENTIAL REMEDIAL ACTIONS
6.23	PRESUMPTIVE REMEDIES

6.24	PARTNERING (USING INNOVATIVE MANAGEMENT, COORDINATION AND COMMUNICATION TECHNIQUES) PARTNERING AGREEMENT
6.25	UPDATING THE EBS
6.26	IMPLEMENTING THE POLICY FOR ON-SITE DECISION MAKING
6.27	SUB-TIDAL PARCELS
6.28	SUMPS AND IR PROGRAM
6.29	STORMWATER AND IR PROGRAM

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PRC 1993d. Record of Telephone Conversation Regarding Birds on HPA between Sabrina Russo, Biologist, and Alan Hopkins, Ornithologist, Golden Gate Audubon Society. December.

PRC 1993e. "Wetlands Delineation Report, HPA" Draft report, under internal review. December.

PRC 1993f. Record of Telephone Conversation Regarding Marine Mammals on HPA between Sabrina Russo, Biologist, and Mike Torok, Marine Biologist, Moss Landing Marine Lab. December.

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WESTDIV 1991. "Wetlands Delineation Report, Hunter's Point Naval Shipyard" Department of the Navy, Western Division, Naval Facilities Engineering Command, San Bruno, California. July.

WESTDIV 1992. Hazardous Waste Management Plan (HWMP) for Naval Station Treasure Island. Prepared by Radian Corporation. July.

WESTDIV 1993. "BRAC II & III Environmental Cost for Treasure Island HPA" Department of the Navy, Western Division, Naval Facilities Engineering Command, San Bruno, California. December 7, 1993.

WESTDIV 1994. Hunters Point Memorandum of Understanding. January 21, 1994

APPENDIX A

(These are Navy internal documents that contain sensitive financial and schedule information that cannot be released to the public.

APPENDIX B

TABLE B-1
CHRONOLOGICAL LIST OF PROJECT REPORTS

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1972	Foundation Investigation, Water Pollution Abatement Facilities	1		05/08/72, Lowney Kaldveer
1984	Initial Assessment Study of Hunters Point Naval Shipyard	3		10/01/84, NEESA
1986	Proposed Verification Step, Plan of Action	6		01/16/86, EMCON
1986	Proposed Verification Step, Plan of Action	9		04/01/86, EMCON
1986	Health and Safety Plan	10		05/01/86, EMCON
1986	ERRATA Revised Verification Step, Plan of Action	11		06/12/86, EMCON
1986	Preliminary Investigation of Possible PCB Spill	12		09/01/86, ERMWEST
1986	PCB Investigation	13		11/01/86, ERMWEST
1987	Investigation of PCBs in Soil and Groundwater	28		01/21/87, ERMWEST
1987	PCB Cleanup Work: Health and Safety Plan	35		02/27/87, ERMWEST
1987	Final Draft Confirmation Study Verification Step, Volumes 1-4	2-5 ^b		03/19/87, EMCON
1987	PCB Verification Sampling Result, Interim Report	41		04/01/87, ERMWEST
1987	Draft-Survey/Asbestos Material With Organic/Inorganic Soil Contamination	42		04/14/87, EMCON
1987	Soil and Water Sampling Near Proposed Galley	· 48		06/01/87, ERMWEST
1987	NACIP Community Relations Plan (Installation Restoration Program)	49		06/01/87, UNKNOWN

Year	Project Title	New Document No.ª	Site Examined	Deliverable Date/By Whom
1987	Area Study for Asbestos Containing Material, Volume 1: Report	56		07/02/87, EMCON
1987	Subsurface Investigation, Proposed Galley	65		07/30/87, HLA
1987	Work Plan - Supplemental Site Study, Proposed Galley	143		12/23/87, HLA
1987	Site Study, South Pier Utilities Project	153		12/28/87, HLA
1987	Site Study Work Plan, Public Works Complex - Auto Repair Shop	154	Auto Repair Shop	12/28/87, HLA
1987	Site Study Work Plan, Medical/Dental Facilities	156	Medical/Dental Facilities	12/29/87, HLA
1988	Draft Work Plan, Volume 2B, Sampling Plan - Group 2 Sites	173	Group 2 Sites	01/01/88, HLA
1988	Draft Work Plan, Volume 3, Quality Assurance Project Plan	174		01/01/88, HLA
1988	Draft Site Study Work Plan, Administrative and Training Facility	177	Administrative and Training Facility	01/13/88, HLA
1988	Draft Work Plan, Volume 5, Site Safety Plan	183		01/20/88, HLA
1988	Site Study Work Plan, North Pier Modification	189	North Pier	01/21/88, HLA
1988	Remedial Action Order, Hunters Point NAS	76		01/26/88, DHS
1988	Site Study Work Plan, Public Works Complex/Operations and Maintenance	199	·	01/26/88, HLA
1988	Draft Site Study Work Plan, Physical Fitness Facilities/Gymnasium	200	Physical Fitness Facilities/Gymnasium	01/28/88, HLA

TABLE B-1 (continued)

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1988	Draft Site Study Work Plan, Utilities Improvement	201	Utilities	01/28/88, HLA
1988	Evaluation of Pickling Tank Emergency Containment Structure	203	Pickling Tank	01/29/88, HLA
1988	Draft Work Plan, Volume 2C, Sampling Plan, Group 3 Sites	213	Group 3 Sites	02/08/88, HLA
1988	Draft Work Plan, Volume 2E, Air Sampling Plan	217		02/12/88, HLA
1988	EE/CA and AM Cleanup of Asbestos Containing Material	225		02/18/88, Navy
1988	Final Scoping Document, RI/FS, Volumes 1-3	230-232	·	03/03/88, HLA
1988	Draft Work Plan, Sampling Plan, Volume 2A, Group 1 Sites	248	Group 1 Sites	03/07/88, HLA
1988	Draft Work Plan, Sampling Plan, Volume 2D, Group 4 Sites	249	Group 4 Sites	03/09/88, HLA
1988	Hazardous Ranking Systems Package	274		03/31/88, HLA
1988	Utilities Technical Study, Phase 2, Volume 5, Sanitary Sewer	277	Sanitary Sewers	04/01/88, YEI
1988	Draft Final Work Plan, Volume 5, Site Safety Plan	280		04/14/88, HLA
1988	Work Plan for Underground Tank Investigation, Volumes 1-4	305-308	Underground Tanks	05/02/88, HAZWRAP
1988	Final Work Plan, Volume 3, Quality Assurance Project Plan, RI/FS	318		05/27/88, HLA

Year	Project Title	New Document No.ª	Site Examined	Deliverable Date/By Whom
1988	Draft Work Plan, Volume 6, PHEE	335		06/01/88, ATT
1988	Stormwater Runoff Investigation	336	Stormwater System	06/06/88, HLA
1988	Draft Work Plan, Community Relations Plan	354		06/20/88, HLA
1988	Draft Work Plan, Volume 4, Data Management Plan	355		06/22/88, HLA
1988	Draft Work Plan, Volume 7, Feasibility Study Plan	356		06/22/88, HLA
1988	Draft Work Plan, Volume 1	406		06/28/88, HLA
1988	Consulting Services San Francisco District Attorney Investigation	2810		06/29/88, HLA
1988	Final Work Plan, Volume 2B, Sampling Plan, Group 2 Sites	415	Group 2 Sites	07/07/88, HLA
1988	Final Work Plan, Volume 2E, Air Sampling Plan	443		07/22/88, HLA
1988	PCB Verification Sampling Results, Area 3	460	Area 3	08/01/88, ERMWEST
1988	Work Plan for Cleanup of Asbestos Containing Material	495		08/09/88, HLA
1988	Final Work Plan for Cleanup of Asbestos Containing Materials (ACM)	2811		08/09/88, ERMWEST
1988	Draft Supplement to Work Plan, Volume 2E, Air Sampling Plan	478		08/26/88, HLA
1988	Final Work Plan for Underground Tank, Investigation, Volumes 1-4	497-500	Underground Tanks	09/16/88, HAZWRAP

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1988	Tank Sampling Investigation, Tank Farm	2847	Tank Farm	10/19/88, HLA
1988	Building 123 Investigation	2848	Building 123	11/02/88, HLA
1988	Officers Club Investigation	2849	Officers Club	11/02/88, HLA
1988	Building 156 Investigation	2850	Building 156	11/03/88, HLA
1988	Pump House, Building 819 Investigation	2851	Building 819	11/03/88, HLA
1988	Building 816, Characterization of Stored Drilling Muds and Boring Cuttings	2852	Building 816	11/09/88, HLA
1988	Revisions to Final QAPP	565		11/14/88, HLA
1988	Revised Final Work Plan, Volume 2B, Sampling Plan, Group 2 Sites	566	Group 2 Sites	11/15/88, HLA
1988	Final Community Relations Plan	591		11/30/88, HLA
1988	Utilities Technological Study, Phase 2, Volume 6, Storm Drain System	616	Storm Drain System	12/01/88, YEI
1988	Work Plan, Volume 2A, Sampling Plan for Group 1 Sites, RI/FS	2560	Group 1 Sites	12/05/88, HLA
1988	Work Plan, Volume 2C, Sampling Plan for Group 3 Sites, RI/FS	2562	Group 3 Sites	12/06/88, HLA
1988	Revised Final Work Plan, Volume 2D, Sampling Plan, Group 4 Sites	675	Group 4 Sites	12/22/88, HLA
1989	Revised Final Community Relations Plan	746	,	01/20/89, HLA
1989	Work Plan, Volume 4, Data Management Plan	768		03/01/89, HLA

Ycar	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1989	Work Plan, Volume 7, Feasibility Study Plan, RI/FS	769		03/01/89, HLA
1989	Work Plan, Volume 6, Public Health and Environmental Evaluation Plan, RI/FS	770		03/01/89, ATT
1989	Summary Report, Interim Cleanup of PCB Spill Site Near Former Building 503	771	Building 503	03/03/89, ERMWEST
1989	Work Plan, Volume 1, Project Management Plan, RI/FS	21 ^b		04/05/89, HLA
1989	Preliminary Assessment Sites, PAs 12-18	825	PAs 12-18	04/26/89, HLA
1989	Report of Air Monitoring Data Collected	2862		05/01/89, ATT
1989	Final Project Management Plan (Work Plan, Volume 1)	844		05/26/89, HLA
1989	Final Draft Solid Waste Air Quality Assessment Test	930		08/04/89, HLA
1989	Technical Report, Underground Tank Investigation	939	Underground Tanks	08/07/89, HAZWRAP
1989	Work Plan for Field Treatment Demonstration and Removal of Sandblasting Grit	987	Sandblast Grit	09/26/89, Battelle
1989	Waste Management Plan for the RI/FS Field Activities	2814		11/03/89, Universal Engineering
1989	Preliminary Assessment, Sites PAs 12-18	1023	PAs 12-18	11/16/89, HLA
1989	Draft Site Inspection Work Plan for PA-13 and PAs 15-18	1049	PA-13, PAs 15-18	12/01/89, HLA

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1989	Draft Soil/Sludge Sampling, Tank S-505	1050	Tank S-505	12/01/89, HLA
1989	Technical Report - Underground Tank Investigation - HP Annex	1051		12/07/89, HAZWRAP
1989	Draft Results Soil and Liquid Sampling UCSF Property at HPA	1093	UCSF Property	12/21/89, HLA
1990	Draft 1st Round Groundwater Sampling, Primary RI, Battery and Electroplating Shop, IR-10	1118	Battery and Electroplating Shop, IR-10	01/02/90, HLA
1990	Draft 1st Round Groundwater Sampling, Primary RI, Power Plant, IR-11	2740	Power Pant, IR-11	01/02/90, HLA
1990	Air Modeling and Risk Assessment of Airborne Contaminants During Proposed Removal Action at the Tank Farm and Pickling and Plate Yard	1154	Tank Farm, Pickling and Plate Yard	02/01/90, UNKNOWN
1990	Draft Volume 1 Remedial Action Work Plan, Pickling and Plate Yard	1155	Pickling and Plate Yard	02/09/90, HLA
1990	Candlestick Point State Recreational Area - Soil and Water Quality Investigation Report	1185		03/13/90, CSFDPW
1990	Site Inspection Work Plan, Sites PA-16 and PA-18	1186	PA-16, PA-18	03/14/93, HLA
1990	Draft Interim Report, Phase 1, Primary RI, Pickling and Plating Yard	1196	Pickling and Plate Yard	03/20/90, HLA
1990	Final Draft Work Plan for Removal Action at Tank S-505	1215	Tank S-505	03/29/90, HLA
1990	Draft Interim Report, Phase 1, Primary RI, Building 503, PCB Soil Area IR-8	1232	Building 503, IR-8	04/03/90, HLA

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1990	Draft Interim Report, Phase 1, Primary RI, Tank Farm	1235	Tank Farm	04/05/90, HLA
1990	Draft Work Plan, Removal Action for Tank Farm, Volume 1	1270	Tank Farm	04/16/90, HLA
1990	Removal Action Plan/Closure Plan (CLEAN)	1304		05/29/90, PRC
1990	Draft Work Plan, Sampling and Analysis of Untreated/Treated Sandblasting Grit	1353	Sandblast Grit	06/28/90, Battelle
1990	Draft Reconnaissance Activities Report, RI/FS, Volumes 1-3	1390-1392		08/09/90, HLA
1990	Draft Environmental Sampling and Analysis Plan	1419		08/28/90, ATT
1990	Draft Final Removal Action for Tank S-505, Volume 1, Work Plan	1420		08/28/90, HLA
1990	Federal Facility Agreement for Treasure Island and Hunters Point	1437		09/01/90, USEPA
1990	Draft Work Plan, Volume 1, Project Management Plan - Update	1454		09/07/90, PRC
1990	Draft Removal Action Plan/Closure Plan NS TI HPA	1464		09/12/90, PRC
1990	Removal Action for Tank Farm (IR-6), Volume 1, Work Plan NS TI HPA	1465	Tank Farm, IR-6	09/13/90, HLA
1990	Draft Work Plan, Volume 2F, Sampling Plan - Group 5 Sites - RI/FS	1482	Group 5 Sites	09/17/90, HLA

Year	Project Title	New Document No.ª	Site Examined	Deliverable Date/By Whom
1990	Draft Addendum: Removal Action Tank S-505, Volume 1, Asbestos Abatement Work Plan	1512	Tank S-505	10/08/90, HLA
1990	Benchscale Treatability Test Plan/ Recycle Sandblasting Grit to Asphalt	1531	Sandblast Grit	10/15/90, Battelle
1990	Draft Clean-Background Sampling Plan HPA	1532	·	10/15/90, PRC
1990	Addendum to Removal Action Tank Farm, Volume 1, Asbestos Abatement WP	1533	Tank Farm	10/16/90, HLA
1990	Preliminary Assessment Other Areas/Utilities, Volumes 1 and 2	1543-1544	Utilities	10/19/90, HLA
1990	Post Construction Report on the Cleanup of Asbestos-Containing Material at the Water Softening Treatment Area, Building 521 and Various Remote Sites	1654	Building 521 and Various Remote Sites	12/03/90, PRC
1990	Draft Final Removal Action Plan/ Closure Plan	1655		12/03/90, Navy
1990	Draft Summaries 1st Groundwater Sampling at Sites IR-6, IR-8 and IR-9	1666	IR-6, IR-8, IR-9	12/06/90, HLA
1990	Work Plan, Volume 2F, Sampling Plan, Group V Sites RI/FS	1751	Group 5 Sites	12/13/90, HLA
1990	Draft Final Addendum 2 Removal Action Tank S-505, Volume 1, Asbestos Abatement Work Plan	1770	Tank S-505	12/19/90, HLA
1991	Characterization Untreated/Treated Sandblasting Grit: Supplemental Sampling and Analysis Plan	1788	Sandblast Grit	01/01/91, Battelle

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1991	Draft Addendum #1 to Removal Action for Tank Farm Volume 1 - WP	1789	Tank Farm	01/02/91, HLA
1991	Chemical Stabilization of Metal Contaminated Sandblasting Grit, Volumes 1-3	1860-1862	Sandblast Grit	01/25/91, Battelle
1991	Draft Final Removal Action Plan/ Closure Plan, Attachment 1	1896		02/11/91, PRC
1991	Health and Safety Plan - Environmental Sampling and Analysis Plan	1928		03/04/91, ATT
1991	Quality Assurance Project Plan for Environmental Sampling and Analysis Plan	1929		03/04/91, ATT
1991	Environmental Sampling and Analysis Plan	1948		03/14/91, ATT
1991	Draft Removal Action Plan/Closure Plan	1949		03/14/91, PRC
1991	Summary of Findings Memorandum, OU-II Sites, Volumes 1 and 2	2043-2044	OU-II Sites	04/18/91, HLA
1991	Removal Action for Pickling and Plate Yard (IR-9), Volume 1, Work Plan	2062	Pickling and Plate Yard, IR-9	04/26/91, HLA
1991	Draft Results of Rounds 1 and 2 Groundwater Sampling OU-II/Recommendations for Round 3	2097	OU-II Sites	05/14/91, HLA
1991	Product Recovery Site Characterization Oil Reclamation Ponds, IR-3	2098	IR-3	05/15/91, HLA
1991	Work Plan Field Demonstration Asphalt Treatment Technology for Sandblasting Grit	2108	Sandblast Grit	05/21/91, Battelle
1991	Phase 2A - Phase 2B Sampling Program - Modifications: Subbase Area IR-7	2198	IR-7	07/01/91, HLA

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1991	Draft Final Removal Action/Tank Abandonment Plan	2215	Underground Tanks	07/08/91, PRC
1991	Draft WP, Field Demonstration Asphalt Treatment Technology for Sandblasting Grit	2216	Sandblast Grit	07/09/91, Battelle
1991	Draft Water Quality Investigation of Stormwater Drainage	2217	Stormwater System	07/10/91, HLA
1991	Water Quality Investigation of Stormwater Drainage	2577	Stormwater System	07/10/91, HLA
1991	Environmental Sampling and Analysis Plan and Addendum Dated 1/29/92	2268		07/31/91, ATT
1991	Quality Assurance Project Plan for Environmental Sampling and Analysis Plan	2269		07/31/91, ATT
1991	Health and Safety Plan for Environmental Sampling and Analysis Plan	2270		07/31/91, ATT
1991	Draft Site Inspection: PA-16, 18 with Remedial Investigation Work Plan: Site PA-18	2333	PA-18	09/09/91, HLA
1991	Primary Phase 2A Data Submittal Recommendation Phase 2B Sampling Modification: IR-4, IR-5	2358	IR-4, IR-5	09/23/91, HLA
1991	Draft Work Plan, Volume 2G: Sampling Plan Group 6 Sites RI/FS	2391	Group 6 Sites	10/21/91, HLA
1991	Draft Aquifer Testing WP RI/FS	2392		10/22/91, HLA
1991	Preliminary Draft Ecological Risk Assessment Data Summary Report	48 ^b		11/15/91, HLA

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1991	Draft Primary Phase 2A Data Submittal/ Recommendation for Phase 2B Sampling Program OU-I Sites, Volumes 1 and 2	2452-2453	OU-I Sites	11/21/91, HLA
1991	Draft Phase 1 Aquifer Testing Results, Recommendations for Phase 2 Aquifer Testing	2454		11/21/91, HLA
1991	Draft Site Inspection Work Plan, PA Other Areas/Utilities Volume 1: Underground Utilities	2484	Utilities	12/20/91, HLA
1991	Draft Site Inspection Work Plan: PA Other Areas/Utilities Volume 2: Sites PA-19, PA-24, PA-32, PA-36, PA-39	2488	Pas 19, 24, 32, 36, 39	12/23/91, HLA
1992	Draft Final Site Inspections: Sites PA-16, PA-18, and RI Work Plan: Site PA-18	2492	Pas 16, 18	01/02/92, HLA
1992	Draft Air Sampling Report	2813		01/02/92, HLA
1992	Draft Summary of Findings Memorandum, OU-IV, IR-7 Site	2495	OU-IV, IR-7	01/16/92, HLA
1992	Draft Air Sampling Report	25 ^b		01/21/92, HLA
1992	Environmental Sampling and Analysis Plan Addendum	2522		01/29/92, ATT
1992	Slug Test Data Results, IR-15 and 17	53 ^b	IR-15 and 17	02/06/92, HLA
1992	Draft Final Aquifer Testing Work Plan RI/FS	2532		02/19/92, HLA
1992	Removal Action, Tank Farm	55 ^b	Tank Farm	02/20/92, HLA
1992	Draft Final Work Plan, Volume 2G - Sampling Plan, Group 6 sites	2634	Group 6 Sites	02/24/92, HLA

Year	Project Title	New Document No. ^a	Site Examined	Deliverable Date/By Whom
1992	Draft Initial Screening of Alternatives, OU-II	2549	OU-II Sites	03/12/92, HLA
1992	Surface Confirmation Radiations Survey and Investigation - Draft	2550		03/18/92, PRC
1992	Addendum to Work Plan, Volume 2F, Sampling Plan, Group 5 Sites, RI/FS	2820	Group 5 Sites	03/18/92, HLA
1992	Work Plan, Volume 2G, Sampling Plan, Group 6 Sites	56A ^b	Group 6 Sites	03/18/92, HLA
1992	Draft Technical Memorandum Background Soil and Groundwater Conditions	2741		03/19/92, HLA
1992	Draft Final SI Work Plan: PA Other Areas/Utilities, Volume 2	2812	Utilities/Other Areas	03/31/92, HLA
1992	Preliminary Draft Pre-PHEE Data Analysis for OU-IV	62 ^b	OU-IV sites	03/31/92, HLA
1992	Draft Final SI Work Plan: PA Other Areas/ Utilities, Volume 1	2806	Utilities/Other Areas	04/01/92, HLA
1992	Technical Memorandum OU-V Redefinition	63 ^b		04/19/92, HLA
1992	Exhibit Plates for Draft SI Work Plan: PA Other Areas/Utilities, Volume 3, 26 Sites	2552	Utilities/Other Areas	05/05/92, HLA
1992	Draft Ecological Risk Assessment Work Plan	2553		05/07/92, HLA
1992	Draft Status Report for Field Demonstration of Asphalt Treatment Technology for Spent Sandblasting Grit	2554	Sandblast Grit	06/05/92, Battelle
1992	Draft, OU-II, RI Report, Volumes 1-4	2637-2640	OU-II Sites	06/12/92, HLA

Year	Project Title	New Document No. ^a	Site Examined	Deliverable Date/By Whom
1992	Draft Water Quality Investigations of Stormwater Drainage	71 ^b		07/10/92, HLA
1992	Preliminary Draft OU-II PHEE Volumes 1 and 2	2643-2644	OU-II Sites	07/17/92, HLA
1992	Technical Memorandum, Tidal Influence Monitoring	72 ^b		07/20/93, HLA
1992	Draft Final Site Inspection Work Plan: PA Other Areas/Utilities, Volume 3: 26 Sites	2561	Utilities/Other Areas	07/22/92, HLA
1992	Draft Final Facility Groundwater Monitoring Plan, RI/FS	2645		07/24/92, HLA
1992	Draft Final Air Sampling Report and Work Plan	2647		07/31/92, HLA
1992	Draft Tank Contents and Analysis	2825	Underground Tanks	08/03/92, PRC
1992	Draft Technical Memorandum Tidal Influence Monitoring	2649		08/06/92, HLA
1992	Draft OU-II PHEE Volumes 1 and 2	2635-2636	OU-II Sites	08/12/92, HLA
1992	Summary Report of UST Removals	2651	Underground Tanks	08/28/92, PRC
1992	Draft Final Ecological Risk Assessment Work Plan	2653		09/09/92, HLA
1992	Preliminary Draft OU-II Feasibility Study Report	2655	OU-II Sites	09/18/92, HLA
1992	Draft OU-II FS Report	2564	OU-II Sites	10/12/92, HLA
1992	Draft Surface Confirmation Radiation Survey Report and Appendices Volumes 1 and 2	2555-2557		11/03/92, PRC

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1992	Survey for Long-Lived Airborne Gross Alpha and Beta Radioactivity Report and Field Calibration Data	2558-2559		11/03/92, PRC
1992	Final Summary Report of UST Removals (July - October 1991)	2662	Underground Tanks	11/18/92, PRC
1992	RI/FS Planning and Implementation Project Management Work Plan Rev. 2	2581		12/01/92, PRC
1992	Draft On-Site Soil Treatment Feasibility Study	86 ^b		12/23/92, PRC
1993	Phase II - Radiation Investigation Final Field Work Plan	2834		01/13/93, PRC
1993	Draft Interim-Action OU-IV Alternative Selection Report	2830	OU-IV Sites	01/15/93, HLA
1993	Draft OU-I and Intertidal Sediment Sampling Data, the ESAP Offshore Data Stormwater/Baywater Data	100 ^b	OU-I Sites	01/29/93, HLA
1993	Draft Summary Alternative Selection Report OU-II	2863	OU-II Sites	02/08/93, HLA
1993	PA-19 and PA-43 Health and Safety Plan, Preliminary Assessment/Site Inspection	90p	PAs 19, 43	02/09/93, PRC
1993	Draft Removal Action Plan/Tank Abandonment Plan Addendum	2838	Underground Tanks	02/10/93, PRC
1993	Draft Alternative Selection Report Interim - Action OU-III	2873	OU-III Sites	03/12/93, HLA
1993	Preliminary Draft Treatability Study Work Plan, OU-I	98 _p	OU-I Sites	03/26/93, HLA

Year	Project Title	New Document No. ²	Site Examined	Deliverable Date/By Whom
1993	Supplemental ESAP Data Submittal	. 103 ^b		04/15/93, HLA
1993	Data Validation Summary Analysis, ESAP	1041 ^b		04/15/93, PRC
1993	Draft Final Interim-Action OU-IV Alternative Selection Report	2671	OU-IV Sites	04/26/93, HLA
1993	Preliminary Draft Final Summary Alternative Selection Report OU-II	99 ^b	OU-II Sites	05/03/93, HLA
1993	Preliminary Draft Final, Interim Action OU-III, Alternative Selection Report	106 ^b	OU-III Sites	05/05/93, HLA
1993	Draft Final Interim-Action OU-III Alternative Selection Report	2676	OU-III Sites	05/12/93, HLA
1993	Draft Final Interim-Action OU-II, Summary Alternative Selection Report	2678	OU-II Sites	05/14/93, HLA
1993	Investigation of Tritium in Surface Soils and Paving Materials Surrounding Building 816, Volumes 1-3	105A-C ^b	Building 816	05/17-18/93, Normandeau Associates Environmental Consultants
1993	Draft Steamline Pipe Access, Spill Prevention and Contingency Plan	109 ^b		05/25/93, HLA
1993	Draft Treatability Study Work Plan OU-I, Site 1R-3	2687	OU-I, IR-3	06/17/93, HLA
1993	Ionizing Radiation Protection Program (CLEAN)	116 ^b		06/25/93, PRC
1993	Draft Treatability Study Work Plan for Treating Subsurface Petroleum Products at Site IR-3 by Biodegradation	2690	IR-3	06/29/93, PRC

Year	Project Title	New Document No.*	Site Examined	Deliverable Date/By Whom
1993	Tidal Influence Monitoring Plan, Third Quarter Data Submittal	112 ^b		07/16/93, HLA
1993	Investigation of Tritium in Surface Soils and Paving Materials Surrounding Building 816	115 ^b	Building 816	07/30/93, PRC
1993	Survey for Long Lived Airborne Gross Alpha and Beta Radioactivity at NAS Treasure Island, HPA, Volume 1	1176		07/30/93, Normandeau Associates Environmental Consultants
1993	Draft Parcel A Site Inspection Report	2839	Parcel A	07/30/93, PRC
1993	Draft Alternative Selection Report, Interim- Action Group 5, Volumes 1 and 2	2867-2868	Group 5 Sites	08/26/93, HLA
1993	Draft Report of Results Work Plan Addendum No. 3, Parcel A Site Inspection Report	2858	Parcel A	09/16/93, HLA
1993	Draft Final Parcel A Site Inspection Report	Unnumbered	Parcel A	10/15/93, PRC
1993	Draft Tank Farm Removal Action Report, Appendices A through I	Unnumbered	Tank Farm	10/22/93, HLA
1993	Draft Report of Results Work Plan Addendum No. 4, Parcel A Site Inspection Report	Unnumbered	Parcel A	10/29/93, HLA
1994	Draft Parcel B Site Inspection	Unnumbered	Parcel B	01/11/94, HLA
1994	Draft Parcel C Site Inspection	Unnumbered	Parcel C	01/25/94, HLA

^a New Document Number refers to the control number from the Information Repository Master Index.

b Document numbers refer to location numbers for these documents in the PRC's Hunters Point Annex project library.

APPENDIX C

From: Commander, Western Division, Naval Facilities Engineering Command

To: Distribution

Subj: HUNTERS POINT ANNEX MEMORANDUM OF UNDERSTANDING

Encl: (1) Memorandum of Understanding executed 21 January 1994

- 1. Enclosure (1) is a copy of the Memorandum of Understanding establishing the mechanism for the eventual conveyance of Hunters Point Annex to, and interim management by, the City of San Francisco. The agreement was signed this date by RADM Tedeschi, Commander, Naval Base San Francisco, and Mayor Frank Jordan, at a ceremony presided over by Congresswoman Pelosi, sponsor of the enabling legislation that led to this agreement. The Memorandum of Understanding was previously endorsed by the Acting Secretary of the Navy (Installations and Environment). The Memorandum of Understanding has to be ratified by the local legislative body, the Board of Supervisors, but that is expected to be a mere formality.
- `. Key elements of the Memorandum of Understanding are as follows:
 - * Authorized by the so-called "Pelosi" and "Pryor" amendments
 - * City acquires fee title to the first 50-acre parcel, Paarcel "A" for \$1 when certified clean
 - * City has right of first refusal to acquire remaining parcels for \$1 when certified clean
 - * City becomes Navy's property manager, including management of existing and future business tenants, and retains all rent income
 - * City becomes responsible for maintenance of Hunters Point infrastructure
 - * City provides police/security service
 - * City reimburses Navy for cost of (Navy) civil service fire company until they acquire Parcel "B" at which time the City assumes fire fighting responsibility for entire base
 - * City markets property for interim leases

MEMORANDUM OF UNDERSTANDING

(Hunter's Point Naval Shipyard)

THIS MEMORANDUM OF UNDERSTANDING (this "MOU") dated as of January 21, 1994, is among the DEPARTMENT OF THE NAVY OF THE UNITED STATES OF AMERICA (the "Navy"), the CITY AND COUNTY OF SAN FRANCISCO (the "City") and the REDEVELOPMENT AGENCY OF THE CITY AND COUNTY OF SAN FRANCISCO (the "Agency"). The City and the Agency are sometimes individually and collectively referred to below as the "City Agencies."

THIS MOU IS MADE WITH REFERENCE TO THE FOLLOWING FACTS AND UNDERSTANDINGS:

- A. The Navy is the owner in fee of all of that certain real property located in the City and County of San Francisco, State of California, commonly known as the Hunters Point Naval Shipyard or the Hunters Point Annex, consisting of approximately 500 acres of land and approximately 480 acres of submerged area, as more particularly described on Exhibit A attached hereto (the "Shipyard").
- B. The Shipyard was a center of employment from World War II until its nominal closure in 1974. It reached a peak of employment of 17,000 jobs and, at its nominal closure, employed approximately 6,000 people. The immediate environs of the Shipyard, known as the Bayview-Hunters Point Community, has experienced 20% to 30% unemployment since 1974.
- C. On July 2, 1993, the President of the United States announced a major new 5-Point Plan to speed economic recovery in communities impacted by military base closures, which includes transferring excess Federal property for free or at a discount when community development plans support economic viability and job creation.
- D. The Shipyard has been approved and selected for closure and disposition by the Base Realignment and Closure Commission of 1991, acting pursuant to Public Law 101-510, Title XXIX, Section 2901 et seq. (104 Stat. 1808 et seq.), and with the full consent of the President and the Congress. Pursuant to Public Law 103-160 (107 Stat. 1547), the Navy is duly authorized to enter into the agreements referred to in this MOU and to effect the transactions contemplated hereby.
- E. Due to the presence of Hazardous Materials (as defined below) on, in, under and about the Shipyard, the Environmental Protection Agency ("EPA") has placed the Shipyard on the National Priorities List created pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9601 et seg. Pursuant to

CERCLA, the Navy, the EPA and the State of California (the "State") have executed a Federal Facilities Agreement dated on or about January 22, 1992 (the "FFA"). The FFA requires the Navy to Investigate and Remediate (as such terms are defined below) all Hazardous Materials on, in, under or about the Shipyard in accordance with a specified process and schedule.

- F. To facilitate the expeditious Remediation of Hazardous Materials and timely productive re-use of the Shipyard, the Navy and the other parties to the FFA have tentatively agreed that Remediation of the Shipyard should be accomplished on a parcel by parcel basis. For such purposes, the Navy shall take those steps with respect to the FFA that the Navy deems necessary to permit the Navy to treat the Shipyard as 5 separate parcels: Parcels A, B, C, D and E as delineated on the attached Exhibit B (each such parcel is referred to below as a "Parcel").
- G. Pursuant to the authorities contained in the legislative acts cited in Paragraph D above, the Navy desires to grant to the City the exclusive option to purchase the Shipyard on a Parcel by Parcel basis upon the successful Remediation of each Parcel, and the City desires to acquire the exclusive right to purchase the Shipyard at the purchase price of \$1 for each Parcel, on the terms and conditions contained in this MOU.
- H. The Board of Supervisors of the City, in Resolution No. 93-306, designated the Shipyard as a Survey Area pursuant to the California Community Redevelopment Law. Pursuant to California Health and Safety Code Section 33391, the establishment of a Survey Area vests legal authority in the Agency to acquire all or any portion of the Shipyard.
- Consistent with the requirements imposed on the Navy under Section 120(h) of CERCLA, the parties have agreed that before the City, or the Agency as the City's designee, accepts title to any Parcel of the Shipyard, the Navy shall Remediate all Hazardous Materials located on, in, under or about the Parcel in accordance with standards or goals that are measurable, clearly defined and consistent with the public health, safety and welfare and the environment, in a manner that complies with the FFA and applicable law. The parties have further agreed that the required Remediation shall have been taken if the construction and installation of an approved Remediation Plan (as defined below) has been completed and the remedy has been demonstrated to be operating properly and successfully. The carrying out of long-term pumping and treating of groundwater, or operation and maintenance, after the remedy has been demonstrated to be operating properly and successfully as provided above, may continue after the City's (or the Agency's) acceptance of title to any Parcel of the Shipyard. The Navy will Remediate Parcel A to standards that permit the safe development, occupancy and use of the Parcel for residential and related purposes and, subject

- to certain limitations described below, will Remediate Parcels B, C, D and E to accommodate the applicable Land Use Plan.
- J. The Navy will first Remediate Parcel A and will then proceed with the Remediation of Parcels B, C, D and E. As a result, the conveyances of the Parcels of the Shipyard pursuant to exercised purchase options will occur over time based on the Navy's progress in Remediating the Parcels.
- K. Parcel A consists of approximately 50 acres and does not contain any occupied buildings. Parcels B, C, D and E consist of approximately 470 acres and contain all of the occupied buildings in the Shipyard.
- L. As a condition of the conveyance of Parcel A to the City, or the Agency as the City's designee, the Navy requires that the City Agencies assume certain responsibilities for management of Parcels B, C, D and E, including contracting for security and fire service. The Agency, as the City's designee, is willing to act as the Navy's managing agent, subject to limitations. Under the management arrangement, neither the City Agencies nor the Navy shall have any obligation to one another to expend funds in excess of the revenues produced from the Property Under Management (as defined in paragraph 4(b) below) and any sums in a reserve account for management of the Property Under Management.
- M. The parties have agreed that legislative jurisdiction over Parcels B, C, D and E shall not be retroceded. Only upon conveyance of title to a Parcel to the City, or the Agency as the City's designee, shall retrocession of jurisdiction over that Parcel, including responsibility for police and fire services, occur.
- The Navy intends to achieve a number of public benefits through the transactions contemplated by this MOU. The Navy's principal objectives include: (i) rapid disposition of the Shipyard to minimize costs of operation, management and ownership; (ii) fast-track Remediation of the Shipyard in cooperation with the regulatory agencies, the City Agencies and the public, to allow for optimum re-use and economic redevelopment, while protecting human health and safety and the environment; (iii) no-cost transfer of Remediated Parcels to facilitate productive re-use of the Shipyard for the benefit of the local community as quickly as possible; (iv) assurance of as stable a business climate as practicable for the existing commercial tenants at the Shipyard and encouragement of expanded interim re-use opportunities for the local community, consistent with activities relating to Remediation and with human health and safety, the environment, and maintenance and repair needs; (v) transfer of Federal control and responsibility for public safety and facilities maintenance to the City as rapidly as possible.

- The City Agencies intend to achieve a number of public benefits through the transactions contemplated by this MOU. City Agencies' principal objectives include: (i) fast-track Remediation of the Shipyard to allow for optimum re-use and economic redevelopment, while protecting human health and safety and the environment; (ii) no-cost transfer of Remediated Parcels to facilitate productive re-use of the Shipyard for the benefit of the local community as quickly as possible; (iii) assurance of as stable a business climate as practicable for the existing commercial tenants and encouragement of expanded interim re-use opportunities for the local community, consistent with activities relating to Remediation and with human health and safety, the environment, and maintenance and repair needs; (iv) management of Parcels B, C, D and E of the Shipyard on a self-sustaining basis so that the revenues received by the City Agencies cover all management, maintenance and operating expenses; and (v) employment opportunities for the Bayview-Hunters Point Community.
- P. The Navy, the Agency and the City are entering into this MOU to set forth their understanding of the principles upon which the Navy may Investigate, Remediate and convey Parcels A, B, C, D and E of the Shipyard to the City, or the Agency as the City's designee, and upon which the Agency shall, subject to limitations described herein, assume certain management functions for Parcels B, C, D and E during the option period upon the conveyance of Parcel A.
- Q. The Navy, the Agency and the City acknowledge that none of them can enter into a final agreement, appropriate funds or otherwise perform the activities necessary to complete the grant of the option to purchase Parcels A, B, C, D or E of the Shipyard by the Navy to the City or the assumption of management responsibilities by the Agency for Parcels B, C, D and E until their respective environmental review processes have been completed and all necessary governmental approvals have been obtained. The Agency, the City and the Navy desire to specify the actions that are contemplated, and to establish a time frame for their performance to facilitate meaningful environmental review and to affirm the Agency's, the City's and the Navy's support for the endeavor.

ACCORDINGLY, the Agency, the City and the Navy, while retaining full discretion as to these actions subject to the findings generated by the environmental review processes and other public review and hearing processes, express their intent to act and cooperate as follows with respect to the conveyance of Parcels A, B, C, D and E of the Shipyard by the Navy and the assumption of management responsibilities for Parcels B, C, D and E by the Agency during the option term:

- 1. <u>Definitions</u>. As used in this MOU, the following initially capitalized terms will have the meanings set forth below:
 - "Hazardous Materials" means any material that, because of its quantity, concentration or physical or chemical characteristics, is at any time now or hereafter deemed by any federal or state governmental authority to pose a present or potential hazard to human health or safety or to the environment, including, without limitation, any petroleum or petroleum product, asbestos-containing materials, polychlorinated biphenyls, flammable explosives, radioactive materials, hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials, including, without limitation, any such materials defined or regulated pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601, et seq.), the Hazardous Materials Transportation Act, as amended (49 U.S.C. §1801, et seg.), the Resource Conservation and Recovery Act, as amended (42 U.S.C. §9601, et seq.), the Toxic Substances Control Act, as amended (15 U.S.C. §2601, et seq.), the California Hazardous Waste Control Law (Health & Safety Code \$25000, et seq.), the Mulford-Carrell Air Resources Act (Health & Safety Code §39000, et seq.), and in the regulations adopted and publications promulgated pursuant thereto, as such laws or regulations now exist or may exist in the future. "Hazardous Materials" shall not include undisturbed naturally occurring subsurface asbestos in soil or rock.
 - (b) "Investigate" or "Investigation" means, when used with reference to Hazardous Materials, any activity undertaken to determine the nature and extent of Hazardous Materials that may be located on, in, under or about a Parcel or adjoining real property.
 - (c) "Land Use Plan" means all land use regulations, ordinances, codes, resolution, guidelines and plans of the City or the Agency in effect at any given time governing uses of a Parcel or any portion thereof or any improvements thereon, including a preliminary conceptual land use plan ("preferred plan alternative"), preliminary master plan, final master plan (including amendments), specific plan, planning code (including amendments), zoning map, development agreement, tentative subdivision map, and redevelopment project area plan.
 - (d) "Release" shall, when used with reference to Hazardous Materials, include any or the actual or imminent spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into or inside any of the improvements, or in, on, under or about the Shipyard.

- (e) "Remediate" or "Remediation" means, when used with reference to Hazardous Materials, any activities undertaken to clean up, remove, contain, treat, stabilize, monitor or otherwise control Hazardous Materials located in, on, under or about the Shipyard or adjacent thereto or which have been, are being, or threaten to be Released into the environment.
- (f) "Remediation Plan" means the Navy's written proposal or specification for permanent Remediation of a Parcel or any portion of a Parcel.
- 2. <u>Division of Shipvard into Separate Parcels</u>. In light of the tentative agreement among the Navy, EPA and the State of California to treat the Shipyard as 5 separate parcels for purposes of Investigation and Remediation of Hazardous Materials as described above, the Navy and the City Agencies propose to treat the Shipyard as 5 separate option parcels.
- 3. Principles of Option to Purchase Parcels A, B, C, D and E Upon Successful Remediation. It is anticipated that the conveyance of the Shipyard from the Navy to the City, or the Agency as the City's designee, will be accomplished through the use of an option to purchase (the "Option Agreement"). The Navy and the City shall negotiate the Option Agreement in accordance with the following principles:
 - (a) Grant of Option. Pursuant to the authorities contained in the legislative acts cited in Paragraph D of this MOU above, the Navy shall grant to the City the exclusive option to purchase Parcels A, B, C, D and E of the Shipyard on a Parcel by Parcel basis for a purchase price of \$1 per Parcel. The consideration payable to the Navy for the option to purchase the Parcels shall be \$1.
 - (b) Term. The term of the option to purchase each Parcel of the Shipyard shall commence upon the execution of the Option Agreement and shall expire ninety (90) days after the City reviews and approves the documentation of Remediation for such Parcel in accordance with paragraph 3(h) below. Failure by the City to purchase any particular Parcel shall not affect the option to purchase any other Parcel.
 - (c) Exercise of Option. To exercise the option to purchase a Parcel, the City shall give the Navy written notice of exercise at any time on or before end of the option term applicable to that Parcel. If the City exercises the option, then the Option Agreement shall become a contract for the purchase and sale of the Parcel on the terms and conditions set forth in the Option Agreement. If the City fails to exercise the option in a timely manner, then the Navy may proceed to dispose of the Parcel in accordance with applicable laws.

(d) <u>Title</u>. At the closing of the purchase of each Parcel the Navy shall convey to the City, or the Agency as the City's designee, fee simple title to the Parcel by a duly executed and acknowledged quitclaim deed that satisfies the requirements of Section 120(h) of CERCLA and is in form and content acceptable to the City. Title shall be subject only to such exceptions to title as the City may approve as specified in the Option Agreement. Subject to approval by the City and the process described in subparagraph (h)(i) below, appropriate conditions shall be included in the deeds to ensure that environmental investigations and remedial activities will not be disrupted at any time, and that human health and the environment will be protected by preventing the inappropriate use of the Parcel being transferred. However, there shall be no restrictions on uses with respect to Parcel A, as provided in subparagraph (h)(i) below.

The City, at its sole cost and expense, shall prepare legal descriptions for each Parcel. Such descriptions shall be reasonably acceptable to the Navy.

As evidence of the delivery of title in the condition required, the City shall obtain at its sole cost and expense an ALTA extended coverage policy of title insurance issued by a title company selected by the City. The title policy shall be in an amount requested by the City and approved by the title company and shall insure fee simple title to the Parcel in the City, or the Agency as the City's designee, free of any and all liens, interests and encumbrances except solely for the permitted title exceptions. The policy shall provide for reinsurance and include endorsements as the City may reasonably require.

- (e) <u>State Interests</u>. The Navy shall cooperate with the City Agencies to clarify the nature and extent of the jurisdiction of any State agencies, including, but not limited to, the San Francisco Bay Conservation and Development Commission and the State Lands Commission, over any portions of the Shipyard.
- (f) Assignment of Leases. At the closing, the Navy shall assign to the City (or the Agency, as the City's designee) the Navy's interest in any leases affecting the Parcel that is being conveyed. Prior to the conveyance of the Parcel and the assignment of leases, the Navy shall cooperate with the City in terminating any leases which the City may elect not to assume, provided that the Navy has the right to terminate such leases without liability.
- (g) <u>Easements</u>. The Navy shall grant to the City (or the Agency, as the City's designee) any easements over the portion of the Shipyard remaining under the Navy's ownership

that the Navy and City determine are reasonably required for the development, use or occupancy of any Parcel purchased from the Navy, and which do not unduly conflict with the Navy's responsibility to protect human health and the environment or to conduct investigation or remediation activities. The City shall grant any rights of access for additional Remediation as found to be necessary under Section 120 of CERCLA subject to such reasonable limitations and protection for development, use and occupancy as the Navy and the City may agree.

(h) <u>Successful Remediation of Hazardous Materials</u>. The City shall not accept tender of a Parcel unless the Navy shall have first successfully Remediated Hazardous Materials on, in, under and about the Parcel in compliance with the FFA, the Option Agreement and the principles of this MOU.

(i) Remediation Standards.

- (1) Remediation Standards for Parcel A. The Navy shall Remediate Parcel A to standards that permit the safe development, occupancy and use of the Parcel for residential uses and related purposes (including excavation for subsurface foundations, improvements and infrastructure), assuming reasonable construction techniques and building designs, and in such condition that these activities and uses will not result in any requirements under any applicable laws for the Investigation or Remediation of Hazardous Materials in the soil or groundwater, provided that the conditions of suitability for residential development, occupancy and use shall not include removal of any groundwater remediation wells or activities installed on the Parcel. The Navy and the City acknowledge that the EPA and the State of California may impose certain temporary restrictions on use of the Parcel, or specific portions of the Parcel, and limitations on excavation of certain portions of the Parcel, as a temporary buffer restriction pending Remediation on adjacent Parcels. However, as a condition to the City's obligation to purchase, Parcel A shall not be subject to any deed restrictions on use.
- (2) Remediation Standards for Parcels B. C. D and E. With respect to Parcels B, C, D and E of the Shipyard, the Navy shall Remediate each of those Parcels to standards or goals that are measurable, clearly defined and consistent with the public health, safety and welfare and the environment, in a manner that complies with the FFA and applicable law and also in a manner that is consistent with

the residential development, use and occupancy of Parcel A. In designing a Remediation Plan for any such Parcel, the Navy shall take into account the then applicable Land Use Plan in accordance with the procedure described below, but the Navy shall not be bound by any such Land Use Plan. shall use its best efforts to propose a Remediation Plan that allows development of the land uses permitted on the Parcel by the Land Use Plan applicable to the Parcel at the time the Remediation Plan is proposed, unless the Navy reasonably determines that (i) the cost to the United States of America to Remediate Hazardous Materials to accommodate such Land Use Plan would be prohibitively expensive, (ii) the time it would take to achieve the necessary level of Remediation would be unreasonably long, (iii) the method of Remediation required would be technologically infeasible or (iv) the proposed Remediation Plan would fail to comply with the National Contingency Plan (NCP), 40 C.F.R. \$300 et seq., or other applicable environmental laws. If the Navy determines that any of those conditions exist, then the Navy shall notify the City Agencies of the Navy's determination, including the factual information upon which such determination is made. The Navy and the City Agencies shall then meet in a good faith effort to attempt to make adjustments to the Land Use Plan, the proposed Remediation Plan, or both, with the goal of reconciling beneficial and reasonable productive re-use of the Parcel with an achievable and cost effective Remediation Plan. Upon completion of the process described above for reconciliation of the Navy's Remediation Plan with the Land Use Plan, the Navy may proceed to submit a Remediation Plan for approval and implementation pursuant to the FFA. Regardless of the outcome of the reconciliation process, the Remediation Plan shall designate the land uses that the Navy has determined appropriate for the particular Parcel, or portions of such Parcel, and for which the Remediation Plan is designed.

All Remediation required hereunder shall have been taken if the Navy has completed construction and installation of an approved Remediation Plan and has demonstrated that the remedy is operating properly and successfully. The carrying out of long-term pumping and treating of groundwater, or operation and maintenance, after the remedy has been demonstrated to be operating properly and successfully as provided above, may continue after the City's (or the Agency's,

as appropriate) acceptance of title to any Parcel of the Shipyard.

- (ii) <u>Hazardous Materials Remediation</u>. The Navy shall diligently proceed with its Investigation and Remediation of Hazardous Materials on, in, under and about the Shipyard in accordance with the FFA and the provisions of this MOU. The Navy shall at all times keep the City Agencies apprised of the progress of its Investigation and Remediation and shall provide the City Agencies' designated representative with access, as requested, to information regarding conditions at the site as such information becomes available during the Investigation and Remediation.
- (iii) Asbestos Containing Materials. Prior to transfer of a Parcel, the Navy shall remove or encapsulate all damaged and accessible friable asbestos-containing materials or asbestos-containing materials that pose a threat to human health and the environment, in accordance with applicable laws and regulations.
- (iv) <u>Documentation of Remediation</u>. As evidence that the Navy has Remediated Hazardous Materials on, in, under and about the Parcel in accordance with the terms hereof, the Navy shall provide the City Agencies with a written certification or other appropriate documentation ("certification") from all of the parties to the FFA that the Remediation has been successfully completed in accordance with the FFA and the provisions of this MOU. The form and content of the certification shall be reasonably acceptable to the City Agencies.

In addition to receiving such certification from the parties to the FFA, the City Agencies shall have the right, before agreeing to accept title to a Parcel, to conduct a commercially reasonable review of the environmental condition of the Parcel in light of the certification and the then applicable Land Use Plan. Such review may be based on the City Agencies' independent investigation using consultants of its own To facilitate the City Agencies' meaningful choosing. independent investigation of the environmental condition of a Parcel, the Navy shall provide the City Agencies' designated representatives access to its administrative record files and all documents developed as the basis for the Navy's remedial action selection Such review and approval period shall not exceed 180 days after receipt of the certification required hereby, subject to mutually agreeable extensions and unavoidable delays.

- (v) Appropriations. The Agency, the City and the Navy expect that the Navy's obligations arising under the FFA will be fully funded. The Navy agrees to seek sufficient funding through the Department of Defense budgetary process to fulfill such obligations. However, the Agency, the City and the Navy recognize that any obligations of the Navy to Investigate and Remediate any Parcel of the Shipyard are subject to the appropriation of necessary funds by the Congress of the United States of America. No provision of this MOU shall be interpreted to require an obligation or payment of funds by the Navy in violation of the Anti-Deficiency Act, 31 U.S.C. Section 1341.
- (i) Tenant Estoppel Certificates. The Navy shall obtain and deliver to the City (or the Agency as the City's designee), before the closing date, tenant estoppel certificates from any and all tenants occupying any portion of the Parcel to be conveyed. Such certificates shall be in a form approved by the City and the Navy and shall be dated no earlier than a reasonable period prior to the closing date.
- (j) Closing. The purchase and sale of each Parcel shall be consummated through escrow with a title company selected by the City and shall close (i.e. delivery of the deed and payment of the purchase price) on the last business day of the first month succeeding the month in which the option is exercised, subject to the City's right to delay the closing for satisfaction of conditions to purchase.
- (k) <u>Closing Costs</u>. The City shall pay at the closing any and all title insurance premiums, survey costs and escrow costs.
- Delivery of Documents: Cooperation. The Navy has delivered to the City Agencies true, accurate and complete copies of (i) all existing and pending leases, (ii) tenant correspondence files, and (iii) a current rent roll for the Shipyard, prepared by the Navy and listing for each tenant the name, location of leased premises, rent, obligation for reimbursement of expenses, amount of security deposit and rent paid more than 30 days in advance, lease commencement date, lease termination date, lease expansion or extension options, option rent, and cost of living or other rent escalation clauses, any free rent, operating expense abatements or other unexpired concessions, and a description of any uncured defaults. In addition, the Navy has furnished the City Agencies with copies of any surveys, soils and geological reports, reports, studies, assessments test results and other documents relating to the physical, structural or environmental condition of the Shipyard, including buildings and other improvements and any and all

other documents of material significance to the ownership, use, management or operation of any Parcel. The Navy shall prepare and furnish to the City Agencies on or before the date for exercise of the option to purchase Parcel A, a copy of a health and safety survey of asbestos containing building materials the buildings and other improvements on all of the Parcels of the Shipyard. The Navy shall furnish to the City Agencies any other documents available to the Navy that the City Agencies may reasonably request. During the MOU period, the Navy shall cooperate with the City Agencies in providing information about title, physical condition and other matters relating to the ownership, maintenance, operation and use of the Shipyard.

- (m) Post-Closing Rights and Obligations. After the closing of the transfer of title to any Parcel, the Navy shall have no further rights or obligations with respect to the Parcel except for the Navy's obligations under the FFA and applicable laws with respect to Hazardous Materials and except as otherwise provided in the deed, this MOU or applicable law. Except as provided in the deed, subject to the limitations contained in this MOU, the Navy shall not retain any right to approve or otherwise restrict in any manner any land use on any portion of the Parcel following the transfer of title to the Parcel. In addition, upon such conveyance, the City and its successors and assigns may freely lease, sell, assign or otherwise transfer all or any portion of the Parcel, and the Navy shall waive any claim to participate in the net proceeds from such transfer.
- (n) Memorandum of Agreement. Upon execution of the Option Agreement, a memorandum of the Option Agreement shall be recorded in the Official Records of the City.
- 4. Principles of Management of Parcels B, C, D and E. As a condition of the Navy's transfer of title to Parcel A as provided in paragraph 3 above, the Agency, as the City's designee, shall assume certain property management functions for Parcels B, C, D and E, subject to the limitations described herein, during the option term in accordance with a management agreement (the "Management Agreement"). The Navy and the Agency shall negotiate the Management Agreement in accordance with the following principles:
 - (a) Management on Behalf of Navy. All actions undertaken by the Agency in the performance of its obligations under the Management Agreement shall be performed solely on behalf of the Navy. The Navy shall authorize the Agency to exercise such powers with respect to the Property Under Management (as defined below) as may be necessary or advisable for the performance of the Agency's obligations under the Management Agreement. In accordance with the budget process described in subparagraph (c) (viii) below,

the Agency and the Navy intend to operate the Property Under Management on a self-sustaining basis. The Agency shall have no obligation to make any expenditure in excess of the revenues received from the Property Under Management except to the extent that funds therefor are available from the reserve account for management (referred to in subparagraph 3(iii) below) or the Navy otherwise makes such funds available, provided that the Navy shall have no obligation to provide any such additional funds.

- (b) Property Under Management. The property under management (the "Property Under Management") shall include all of Parcels B, C, D and E, except as provided in paragraph 4(e) below. Prior to the commencement of the term of the Management Agreement, the Navy shall, at its expense and subject to availability of funds (which funds the Navy shall use its best efforts to secure), install fencing to prevent unauthorized access to those portions of Parcels B, C, D and E that the Agency determines to exclude from the Property Under Management as provided above.

 Notwithstanding anything to the contrary herein, all sums paid by MARAD for its use of a portion of the Shipyard shall be made available to the Agency for management of the Property Under Management.
- (c) <u>Responsibilities of Managing Agent</u>. Subject to the limitations described in this paragraph 4, the duties of the Agency as the Navy's managing agent shall consist of the following:
 - (i) Contract for Security and Fire Services. Except as provided in this subparagraph below, the Agency shall be responsible for contracting, on behalf of the Navy, for security and fire suppression services to the Property Under Management during the term of the Management Agreement, in accordance with an operating and capital budget for the Property Under Management approved by the Navy. Following commencement of the Management Agreement term, the Navy will continue to provide fire protection for Parcels B, C, D and E until Parcel B is successfully Remediated as provided in paragraph 3(h) of this MOU. The actual out-of-pocket costs for the Navy's provision of fire protection during such period shall be paid from the revenues received from Parcels B, C, D and E.
 - (ii) <u>Perform Routine Maintenance of Infrastructure</u>. The Agency shall be responsible for routine maintenance of streets and sidewalks and for sewer and water pipelines to the occupied buildings in accordance with an operating and capital budget for the Property Under Management approved by the Navy.

- (iii) Collect Rents. The Agency shall collect rents and other monies payable by occupants of Parcels B, C, D and E during the management term. All revenues received from the use or occupancy of those Parcels shall be used for management of the property under management. The Agency shall deposit any revenues in excess of management costs in a bank account (the "reserve account") used exclusively for management of Parcels B, C, D and E, including the cost of improving usable buildings and demolishing unusable buildings. Withdrawals from that account may be made upon the signature of the Agency for disbursement for expenditures consistent with the approved budget or any other expenses of the Property Under Management approved by the Navy.
- (iv) <u>Perform Routine Maintenance and Repair of Buildings</u>. The Agency shall be responsible for routine maintenance and repair of occupied buildings in accordance with an operating and capital budget for the Property Under Management approved by the Navy or as otherwise approved by the Navy.
- (v) <u>Service Leases</u>. The Agency shall respond to complaints and requests by the building occupants. The Agency shall employ on-site personnel necessary for the operation and maintenance of the Property Under Management, if provided for in the approved budget.
- (vi) Market Vacant and Occupiable Space. In accordance with an approved leasing plan and subject to approval. when required, by the regulatory agencies under the FFA, the Agency shall procure tenants and propose and negotiate leases or other use or occupancy agreements for the Property Under Management. The Navy and the Agency shall approve the lease form to be used for new leases. All leases for the Property Under Management shall be in the name of and executed by the Navy. Agency shall cooperate with the Navy in the Navy's preparation of an environmental baseline survey for Hazardous Materials for each qualifying leasing action, pursuant to applicable Department of Defense requirements. The Navy shall be responsible for setting rents for the Property Under Management. connection with the budget approval process described below, the Navy, after consultation with the Agency, may exercise any right to terminate any lease or other occupancy agreement or modify the financial terms of any such lease or other agreement.
- (vii) <u>Contract for Utilities</u>. The Agency may negotiate and enter into contracts for gas, electricity, water and other utilities or building

operation and maintenance services, subject to the Navy's approval.

- (viii) Prepare Operating and Capital Budget. Agency shall prepare and submit to the Navy in advance a proposed operating and capital budget for the operation of the Property Under Management for each fiscal year. The Agency shall if possible propose a budget in which anticipated revenues do not exceed anticipated expenses. The Navy shall review and approve the proposed annual budget promptly following receipt. In approving the budget, the Navy shall give priority to provisions for life safety. To the extent the Agency from time to time during the course of any fiscal year believes modifications to the annual budget should be made, the Agency shall submit such modifications to the Navy. The Navy shall promptly review and approve such modifications. If the Navy disapproves any such modifications, the Navy shall give its reasons therefor and shall meet with the Agency in a good faith attempt to resolve differences, provided that the Navy shall have no obligation under the Management Agreement to make any expenditures in excess of the total revenues and any monies in the reserve The Agency shall be authorized to make all account. expenditures and take all actions necessary to implement the approved annual budget.
- Prepare Leasing Plan. The Agency shall prepare (ix) and submit to the Navy in advance a proposed leasing program for the Property Under Management for each fiscal year. The Navy agrees that such leasing plan may permit a percentage of the property under management to be leased to community based non-profit organizations and for-profit businesses. Subject to the foregoing, the Navy shall review and approve such leasing program. To the extent the Agency, from time to time during the course of any calendar year, believes modifications to the leasing program should be made, the Agency shall submit such modifications to the Navy. The Navy shall promptly review and approve such modifications. If the Navy disapproves any such modifications, the Navy shall give its reasons therefor and shall meet with the Agency in a good faith attempt to resolve differences provided that the Navy shall have no obligation under the Management Agreement to consent to any modifications which would require the Navy to make any expenditures in excess of the total revenues produced by the Property Under Management and any monies in the reserve account for management. Agency shall be authorized to make all expenditures and take all actions necessary to implement the approved leasing program.

- (d) Relocation. As part of the approved leasing plan, the Agency may relocate building occupants within the property under management to more appropriate facilities, and the Agency may also relocate building occupants onto the Property Under Management from any other Parcel of the Shipyard owned or controlled by the Agency.
- (e) Building 813. Building 813 is presently occupied by the Navy's Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) and Planning, Engineering, Repair and Alterations Detachment (PERA). The Navy may continue to occupy Building 813 for such purposes until the earlier of two years after the date hereof or the date upon which the Navy relocates SUPSHIP operations off of the Shipyard and terminates PERA operations at the Shipyard. However, Building 813 shall be excluded from the Property Under Management during the period of such occupancy by SUPSHIP or PERA. In addition, the Agency reserves the right to exclude from the Property Under Management any other portions of the Shipyard that become occupied by the Navy or other Federal operations, for the period of occupancy by the Navy or such other Federal operations. Notwithstanding the foregoing, the Agency shall furnish reasonable security and fire service to governmental contractors engaged in the Remediation of Hazardous Materials in the Shipyard. The parties understand that any utilities or other costs associated with the operation of any portion of the Shipyard excluded from the Property Under Management shall not be part of the operating and capital budget for the Property Under Management.
- (f) Term. The term of the Management Agreement shall be coterminous with the term of the Option Agreement with respect to each of Parcels B, C, D and E. Upon the transfer of any such Parcel by the Navy to the City (or the Agency as the City's designee), any of their assignees, the Management Agreement shall automatically terminate with respect to such Parcel. The conveyance of Parcel A to the City, or the Agency as the City's designee, shall be a condition precedent to the effectiveness of the Management Agreement.
- (g) Annual Performance Review. The Navy shall annually review the Agency's performance as manager. The Navy shall also provide regular monitoring of the Agency's management of the Shipyard and shall notify the Agency of any management concerns.
- (h) Operating Policies. The Navy shall establish operating policies for the property under management to guide the Agency in its management activities and the occupants of the property in their uses.

- (i) <u>Books and Records</u>. The Navy shall continue to maintain all property files and shall make such files available to the City Agencies.
- (j) No-Cost Transfer of Personal Property. Upon request and subject to applicable federal law, the Navy shall transfer to the City, or the Agency as the City's designee, at no cost, any or all fire trucks and other equipment and personal property owned by the Navy located on or used in connection with the ownership, use, management or operation of the Property Under Management.
- Defaults. In the event the Agency fails to perform a material obligation under the Management Agreement after the expiration of any agreed-upon cure period, and the Navy terminates the Management Agreement as a result thereof, the Navy shall have the right, at its election, to terminate the Option Agreement. Upon any such termination by the Navy, the Navy may elect to terminate any further rights by the City under the Option Agreement to acquire any Parcels remaining subject thereto. In the event the Navy fails to perform a material obligation under the Management Agreement after the expiration of any agreed-upon cure period, or to comply with its obligations under the FFA to Investigate and Remediate all Hazardous Materials on, in, under or about any such Parcel as determined by final resolution of a dispute pursuant to the dispute resolution procedures in the FFA, the Agency shall have the right, at its election, to terminate the Option Agreement. No such termination by the Agency shall affect any of the rights or obligations of the parties under the Option Agreement.
- (1) <u>Litigation</u>. In the event that any third party initiates any action or proceeding against either or both of the City Agencies arising out of any activities performed under the Management Agreement or otherwise relating to any of the Property Under Management, and the Navy is not named as a defendant in such action or proceeding, the Navy shall consent to be joined in such action or proceeding as permitted by law.
- (m) Termination Right. The City Agencies are willing to agree to the Agency's assumption of management responsibilities only if the revenues from operation of the Property Under Management are sufficient to cover the costs of adequate liability insurance. Subject to the provisions of paragraph 4(c)(viii) of this MOU, the Agency shall have the right to terminate the Management Agreement if at any time the revenues from the Property Under Management are insufficient to allow the Agency to properly perform its management responsibilities and cover the costs of: (i) obtaining comprehensive liability insurance coverage with limits not less than \$25,000,000 each occurrence combined

single limit for bodily injury, including contractual liability, independent contractors, broad-form property damage, fire damage legal liability, personal injury, products and completed operations, and a deductible of not more than \$50,000; and (ii) paying at least \$100,000 per year into a reserve account to cover claims against the City Agencies, until the balance in such reserve account reaches an amount acceptable to the City Agencies. Upon any such termination by the Agency, the Navy may elect to terminate any further rights by the City under the Option Agreement to acquire any Parcels remaining subject thereto.

- Reserve Accounts. In the event the Management Agreement terminates, the liability reserve account referred to in subparagraph (m) immediately above shall be preserved for a period of 2 years after the date of termination to cover any potential claims against the City Agencies arising out of the Management Agreement or the Property Under Management. After the end of such 2-year period, the Navy shall be vested with the exclusive right to any positive balance remaining in the account, provided that the Navy shall retain in such account for the benefit of the City Agencies an amount sufficient to cover any then pending claims against the City Agencies. If upon termination of the Management Agreement the balance of the insurance reserve account is not sufficient to cover potential claims against the City Agencies, then the Navy shall retain in the reserve account for management referred to in paragraph 4(c)(iii) above a reasonable amount to cover such claims for a period of 2 years after the date of termination. the end of such 2-year period, the Navy shall-be vested with the exclusive right to any positive balance remaining in the operating and capital account, provided that the Navy shall retain in such account for the benefit of the City Agencies an amount sufficient to cover any then pending claims against the City Agencies, to the extent that the amount retained in the insurance reserve account is insufficient.
- (0) <u>Leases</u>. The leases with occupants of the Property Under Management shall include such indemnification, insurance, release, consent to jurisdiction and other provisions as the Agency deems necessary or appropriate in light of the Agency's obligations under the Management Agreement.
- (p) Estoppel Certificates and Other Documents. Prior to the Agency's assumption of management of such tenants, the Navy shall furnish the Agency with tenant estoppel certificates from all tenants occupying any portion of the Property Under Management. Such certificates shall be in a form approved by the Agency and the Navy and shall be dated no earlier than a reasonable period prior to the date of assumption of management responsibilities. In addition,

prior to the Agency's assumption of management responsibilities, the Navy shall provide to the Agency the asbestos survey described in paragraph 3(1) above.

- (q) <u>Investigation and Remediation of Hazardous Materials</u>. The Navy shall remain solely responsible for the Investigation and Remediation of any Hazardous Materials in, on, under or about the Property Under Management pursuant to the FFA and its obligations under applicable laws.
- (r) <u>Non-Discrimination and Affirmative Action</u>. The Agency shall provide assurances with respect to non-discrimination and affirmative action pursuant to then applicable laws.
- (s) <u>Streamlined Approvals</u>. In order to facilitate operation of the Shipyard and rapid productive reuse, the Navy shall support efforts to delegate authority and provide for streamlined, local approvals with respect to new leases and all other acts requiring Navy approval under the Management Agreement.
- (t) <u>Subcontracts</u>. The Agency may subcontract any of its management responsibilities under the Management Agreement to any person or entity qualified to perform such responsibilities.
- Hazardous Materials Indemnification. Current Department of Defense policy requires that the City Agencies waive all rights they have to indemnification under the indemnification provisions contained in Section 330 of the National Defense Authorization Act, 1933, P.L. 102-484 and agree that they will seek no remedy from the United States of America under authority of this statutory indemnification provision, or otherwise. However, the City Agencies are not willing to proceed with the transactions contemplated by this MOU without an indemnification agreement of the United States of America and are not willing to waive rights the City Agencies believe they are entitled to under current law for toxic tort and other environmental liabilities. Based on appropriate clarification of applicable law or changes in Department of Defense policy, a resolution of such differences must be reached before the Navy and the City Agencies will enter into the Option Agreement and the Management Agreement.
- 6. Retrocession. Subject to the principles outlined in this MOU, the City agrees that it will cooperate with the Navy in proceedings before the State Lands Commission to effect retrocession of all legislative jurisdiction over a Parcel effective upon the Navy's transfer of title to such Parcel pursuant to the Option Agreement. No retrocession shall occur with respect to any of the Parcels of the Shipyard unless and until title to a Parcel is conveyed to the City (or the Agency as the City's designee) pursuant to the Option Agreement and then retrocession shall occur only with respect to the Parcel

APPENDIX C – MEMORANDUM OF UNDERSTANDING PAGE 20 OF 22

DRAFT WORK PLAN
SURFACE CONFIRMATION RADIATION SURVEY
AND INVESTIGATION

THE ABOVE IDENTIFIED PAGE IS NOT AVAILABLE.

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QUESTIONS MAY BE DIRECTED TO:

DIANE C. SILVA
RECORDS MANAGEMENT SPECIALIST
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 532-3676

- Notices. The Agency, the City and the Navy shall each designate one person as the representative of each in all dealings with the other party, who shall, until further notice, be the person whose name is indicated beneath such party's address set forth on the signature page hereof. notice or communication hereunder must be in writing, and may be given by registered or certified mail, and if given by registered or certified mail, same shall be deemed to have been given and received when a registered or certified letter containing such notice, properly addressed, with postage prepaid, is deposited in the United States mail; and if given otherwise than by registered mail, it shall be deemed to have been given when delivered to and received by the party to whom it is addressed. Such notices or communications shall be given to the parties hereto at the addresses set forth opposite the names of the respective parties on the signature page of this MOU. Any party hereto may at any time by giving ten (10) days' written notice to the other party hereto designate any other address in substitution of the foregoing address to which such notice or communication shall be given.
- Signatures. The signatures below acknowledge that the Agency, the City and the Navy have agreed to the terms of this MOU; however, this MOU is not intended to be, and shall not become, contractually binding on the City Agencies or the Navy and no legal obligation shall exist unless and until the City Agencies and the Navy have negotiated, executed and delivered a mutually acceptable Option Agreement and Management Agreement, the parties' respective environmental review processes have been completed and all necessary governmental approvals have been obtained (including, without limitation, approval by City's Board of Supervisors). In conducting their respective environmental reviews, the City Agencies and the Navy shall retain the absolute discretion to (a) make such modifications deemed necessary to mitigate significant environmental impacts, (b) select other feasible alternatives to avoid such impacts, (c) balance the benefits against unavoidable significant impacts prior to taking final action if such significant impacts cannot otherwise be avoided, or (d) determine not to proceed with the project based

on the information generated by the environmental review process.

AGENCY:	REDEVELOPMENT AGENCY OF THE CITY AND COUNTY OF SAN FRANCISCO
	Richard Kono Acting Executive Director
	Designated Representative:
CITY:	CITY AND COUNTY OF SAN FRANCISCO
	FRANK M. JORDAN Mayor
	Designated Representative:
NAVY:	DEPARTMENT OF THE NAVY OF THE UNITED STATES OF AMERICA
	By: Francisco ERNEST F. TEDESCHI, RADM, USA Commander Naval Base San Francisco
	Designated Representative: Director Real Estate Division (Code 24) Western Division Naval Facilities Engineering Command

